Croonian Lectures
ON
SOME POINTS IN THE PATHOLOGY OF RHEUMATISM, GOUT, AND DIABETES.

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LECTURE III.

(*Concluded from page 774.*)

HAVING indicated the way in which the symptoms of rheumatism and gout may be produced, let me now appeal to clinical experience, and show how far the results obtained from the practical treatment of these disorders supports the view I have here advanced as to their pathology. If uric acid is the poison, the treatment for both diseases resolves itself into this: to prevent the formation of this substance, and when formed to promote its elimination from the system. The kidneys will in time effect the latter if we satisfy the first condition, and we may do this by seizing upon or eliminating the glycocine from the system; for as this is an essential constituent of uric acid, by removing it we prevent the further formation of that body, and so remove the irritating substance by which the action of the central nervous system is perverted. In gout this may be effected in some measure by benzoic acid. When benzoic acid is swallowed or introduced into the alimentary canal of a mammal, whether herbivorous or omnivorous, it appears in the urine as hippuric acid $C_9H_9NO_3$. The urine of adult herbivorous mammals contains no uric acid, this substance being replaced by hippuric acid, which varies in quantity both according to the food of the animal and the amount of work or exercise it has taken. Hippuric acid is also found, though in much smaller quantity, under normal circumstances, in human urine. Now hippuric acid may be decomposed by boiling it with strong hydrochloric acid into benzoic acid and glycocine:[1]

$$\underset{\text{hippuric acid}}{CH_2\begin{cases}NH\,.\,C_7H_5O\\COOH\end{cases}} + H_2O = \underset{\text{benzoic acid}}{C_6H_5\,.\,COOH} + \underset{\text{glycocine}}{CH_2(NH_2)COOH}$$

This action may be reversed, and by heating benzoic acid and glycocine in a sealed tube to 160° C. hippuric acid is formed.[2] It may also be formed by injecting benzoic acid and glycocine or bile into the blood of a living animal.

According to Kühne and Hallwachs,[3] benzoic acid injected alone into the jugular vein is not converted into hippuric acid, but it is if injected into the portal vein. Meissner and Shepard,[4] however, state that after injecting benzoic acid into the jugular vein of a rabbit, at first benzoic acid alone appeared in the urine, then more and more hippuric acid, and lastly hippuric acid alone. These experimenters maintain that hippuric acid is formed in the kidneys alone; but benzoic acid appearing first alone in the urine in the above experiment would hardly bear out that view, and Salomons,[5] after introducing benzoic acid into the stomach of a nephrotomised rabbit, obtained a decided amount of hippuric acid from the muscles, liver, and blood. Again, when benzoic acid is injected into the portal vein, of some animals at least, it appears as hippuric acid in the hepatic vein.[6] Hippuric acid also appears in the urine when benzoic acid is swallowed or introduced into the alimentary canal. Here it meets with the glycocine in the bile, and as they pass into the liver these are conjugated with elimination of water forming hippuric acid:

$$\underset{\text{benzoic acid}}{C_6H_4\begin{cases}H\\COOH\end{cases}} + \underset{\text{glycocine}}{CH_2\begin{cases}NH_2\\COOH\end{cases}} = \underset{\text{hippuric acid}}{C_6H_4\begin{cases}H\\CO\,.\,NH-CH_2-COOH\end{cases}} + H_2O.$$

The molecule CO . NH when the substance forms part of the tissue being transformed[7] into CNOH, and then living hippuric acid would be represented by the formula

$$C_6H_4\begin{cases}H\\CNOH\end{cases}\qquad CH_2\begin{cases}\\COOH\end{cases}$$

having a constitution of the same character as that of the molecules of living albumen. But benzoic acid, after passing through the liver, may be transformed in the tissues in two ways—into hippuric acid, either by being conjugated there with glycocine, or combining with the antecedent of glycocine.

In my previous lecture I endeavoured to show that this antecedent of glycocine is methene cyanalcohol $CH_2\begin{cases}OH\\CN\end{cases}$ which, acted upon by acids, would form glycollic acid, but if first treated with ammonia it forms a cyanamide, and then hydrated with acids or alkalies, forms glycocine.

When this substance and benzoic acid therefore are brought together in the tissues we should have

$$\underset{\text{methene cyanalcohol}}{CH_2\begin{cases}OH\\CN\end{cases}} + \underset{\text{benzoic acid}}{C_6H_4\begin{cases}H\\COOH\end{cases}} + 2H_2O$$

$$= \underset{\text{glycollic acid}}{CH_2\begin{cases}OH\\COOH\end{cases}} + \underset{\text{ammonium benzoate}}{C_6H_4\begin{cases}H\\COO\,.\,NH_4\end{cases}}$$

the latter of which when dehydrated being converted into benzonitrile,[8] this becomes

$$= \underset{\text{glycollic acid}}{CH_2\begin{cases}OH\\COOH\end{cases}} + \underset{\text{benzonitrile}}{C_6H_4\begin{cases}H\\CN\end{cases}} + 2H_2O$$

$$= \underset{\text{hippuric acid}^9}{C_6H_4\begin{cases}H\\CNOH\end{cases}\\CH_2\begin{cases}\\COOH\end{cases}} + 2H_2O$$

the formula which I have just shown to be that for living hippuric acid.

It is in this way that benzoic acid acts. It seizes upon the glycocine or its antecedent and so prevents the formation of uric acid; it passes out in the urine as hippuric acid, and gouty patients undoubtedly derive benefit from its use. Dr. Golding Bird prescribed it, in conjunction with phosphate and carbonate of soda with cinnamon-water, as a vehicle in gout. Dr. Garrod says: "I can confidently affirm that I have already obtained great advantage in the treatment of these diseases (gout and gravel) from the employment of the benzoates."[10] Doubt has been expressed whether the benzoates do diminish the uric acid excretion or not. Cook[11] states that in a healthy individual the administration of benzoic acid does not stop the formation of the normal amount of uric acid, but masks its presence in the urine and interferes with the murexide test. The later experiments of Dr. Noel Paton,[12] however, clearly demonstrate "that benzoate of soda really does diminish the uric acid secre-

[1] Watts Dict. Chem., vol. iii., 1865, p. 158.
[2] Ibid., p. 156. [3] Jahresb., 1859, s. 636.
[4] Untersuchungen über das Entstehen der Hippursäure. Hanover, 1866.
[5] Zeitschr. f. Phys. Chemie, s. 383, 1879.
[6] Foster's Physiology, fourth edition, 1883, p. 441.
[7] Compare page 827. [8] Watt's Dict. of Chem., vol. i., p. 563.
[9] Glycollic acid and benzonitrile can in the laboratory be transformed into hippuric acid by converting the benzonitrile in benzoic acid and ammonia, this combining with the glycollic acid to form ammonium glycollate, which when heated is transformed into glycocine, and then combining this with benzoic acid, hippuric acid is formed in the usual way.
[10] THE LANCET, April, 1883, p. 673.
[11] Brit. Med. Journal, July 7th, 1883, p. 9.
[12] Journal of Anatomy and Physiology, Jan. 1884, pp. 26 to 31.

tion." In an abnormal state of things, when there is an excessive amount of glycocine passing unchanged into the blood, the benzoic acid seizes upon this and converts it into hippuric acid; and so, if glycocine be necessary for the formation of uric acid, the amount of the latter must be correspondingly lessened. The remedy, however, must be given in sufficiently large doses, doses large enough to absorb all the glycocine, and then it may not only prevent the further formation of uric acid, but, as Cook's experiments show, it may render the uric acid already existing in the blood more soluble and therefore more readily eliminated by the kidneys.

Salicylic acid, or oxybenzoic acid $C_6H_4\begin{cases}OH\\COOH\end{cases}$ is another remedy which acts like benzoic acid, and this also has been found by Dr. Noel Paton[13] to diminish the excretion of uric acid. When administered internally it passes off by the urine as salicyluric acid—that is, it combines in its passage through the system either with glycocine or its antecedent, for on treating salicyluric acid with fuming hydrochloric acid it is resolved into salicylic acid and glycocine:

$$\underset{\text{salicyluric acid}}{C_6H_4\begin{cases}OH\\CO\,.\,NH-CH_2-COOH\end{cases}} + H_2O = \underset{\text{salicylic acid}}{C_6H_4\begin{cases}HO\\COOH\end{cases}} + \underset{\text{glycocine}}{CH_2\begin{cases}NH_2\\COOH\end{cases}}$$

Consequently, in the system, by seizing either upon glycocine or its antecedent, salicylic acid takes away an essential constituent of uric acid, and so prevents the formation of this body. As the salicyluric acid passes into the living system, the CO . NH would be transformed into CNOH, and the above formula for salicyluric acid would become

$$\underset{\text{salicyluric acid}}{C_6H_4\begin{cases}OH\\CNOH\end{cases}\\CH_2\quad\;\;COOH}$$

or, if salicylic acid combines with methene cyanalcohol the antecedent of glycocine in the tissues, it would then undergo similar changes to those I have described for benzoic acid—viz.:

$$\underset{\text{salicylic acid}}{C_6H_4\begin{cases}OH\\COOH\end{cases}} + \underset{\substack{\text{methene}\\\text{cyanalcohol}}}{CH_2\begin{cases}OH\\CN\end{cases}} = \underset{\text{salicyluric acid}}{C_6H_4\begin{cases}OH\\CNOH\end{cases}\\CH_2\quad\;\;COOH}$$

In gout, uncomplicated with contracted kidney or albuminuria,[14] salicylic acid is often of service.[15] But it is in acute rheumatism that it shows its special power, acting truly, when properly administered, as a distinct specific. Here is a disorder which under different treatment may exist for weeks stationary, so to speak, in its intensity, the great heat, and nervous and vascular excitement, and pain, and swelling being exactly of the same amount to-day as they were weeks ago; a disorder which less than fifty years since was said to be "often such in itself and such in its appalling incidents as to need from time to time that medicine should put forth the full compass of all its powers. Every organ or system of organs which either directly or indirectly can receive the impression of remedies are from time to time called to bear all that they can possibly endure; and it is often only when the powers of medicine are pressed even to the verge of destroying life, that life is saved."[16] And now, with or without the administration of a purgative, as the occasion requires, the patient is placed fully under the influence of salicylic acid, and in from forty to sixty hours, not unfrequently in a shorter time, the pains in the joints have subsided, the limbs can be freely moved, and the bodily temperature has reached the normal condition. But more than this—and here the remedy shows its signal power,—in no case of rheumatism that has come under my care during the last six years, either in hospital or private practice, has there been, where the heart was previously sound, any cardiac complication, such as endocarditis or pericarditis, developed. If this can be maintained and ensured, we have indeed in our hands a most potent remedy. Cardiac complications constitute the chief danger of acute rheumatism, and the danger, if the disease is taken in hand soon enough, may with our new remedy be averted. But certain conditions must be observed to ensure success in the administration of the remedy. They are as follows:—1. The true salicylic acid obtained from the vegetable kingdom must alone be employed. If you have to give large doses, avoid giving the artificial product obtained from carbolic acid, however much it may have been dialysed and purified. An impure acid will very quickly produce symptoms closely resembling delirium tremens. 2. Give the acid without any alkali or base. A very good form is to mix 100 grains with 15 grains of acacia powder and a little mucilage. Allow the mass to stand and harden, and then divide into thirty pills. 3. Place the patient fully under the influence of the drug—that is, let him have sufficient to produce cerebral disturbance—i. e., buzzing in the ears or headache, or slight deafness; with the development of these symptoms the temperature and the pain in the joints will begin to decline. To an adult I generally administer three doses of 20 grains (six pills) at intervals of an hour, and if the head remains unaffected, a fourth dose at the end of another hour; and then repeat the 20 grains every four hours until the physiological effect of the remedy shows itself. In the majority of cases from 80 to 100 grains are enough. In severe cases 140 to 150 grains may be required. Afterwards about 80 grains a day are sufficient, and as the temperature declines smaller quantities will develop their physiological effects, 60 or even 50 grains being then sufficient to produce cerebral disturbance. It would appear that as long as the rheumatic poison is circulating in the system, the physiological effect—that is, the effect it produces in the healthy organism—does not show itself; acting as an antidote, the greater the amount of poison the larger must be the dose of the remedy; but as soon as the formation of the *materies morbi* is stopped, then the excess of the remedy acts as it would in the healthy organism and its peculiar physiological effects are developed. It is a very striking illustration of the difference between the therapeutic effect of a remedy and its physiological action. 4. Give the patient from 40 to 80 grains daily for ten days after all pain and pyrexia have passed away. 5. Let the patient's diet consist entirely of milk and farinaceous food for at least a week after the evening temperature has been normal. On the other hand, if the patient has meat and soup, you may look forward with fair probability to a relapse. 6. Take care to maintain a daily and complete action of the bowels. Calomel is the best purgative, from 2 to 5 grains at night, followed in the morning, if necessary, with a saline draught. This is the most important adjuvant to the action of salicylic acid, and I will presently explain to you why this is the case. 7. Let the patient be enveloped in a light blanket, and with no more bedclothes than are sufficient to keep him from feeling cold. The object of the treatment now is to cool the patient—not, as in former times, to sweat the poison out of him; and the cooler he is kept the sooner will the temperature be lowered. In fever increased heat increases the metabolism just as in a cold-blooded animal.[17]

These are the seven rules upon which I act. I have given the true salicylic acid where there have been both aortic and mitral mischief; and I have also given it in rheumatism complicated with pericarditis, and as yet I have seen no bad result from it. Of course in cases of pericarditis, accompanied with delirium, the use of the remedy requires caution; you cannot tell when the system is saturated with the remedy, and you must therefore trust to smaller doses and other means for controlling the disease. Further, if pericarditis or endocarditis, pneumonia, or pleurisy have been developed, the remedy is powerless over the mischief which is done; it will neutralise the poison producing the mischief so as to stop its extension, but the inflammatory exudations will undergo their usual changes unabbreviated in their course. We see the same thing in tonsillitis. Given early enough, salicylic acid will stop the mischief, but if exudation of lymph has taken place salicylic acid is powerless to cause its absorption.

There is another important point to be noticed here. In my first lecture I showed that from condensation of two molecules of $CH_2\begin{cases}OH\\CN\end{cases}$ lactic acid and carbonic acid could

[13] Loc. cit., p. 25.

[14] Paton's experiments show "that this drug has really an irritating action on the kidneys." Loc. cit., p. 25.

[15] See Dr. Dyce Duckworth's remarks on the use of salicylate of soda in gout. Year-book of Treatment for 1884, p. 81.

[16] Dr. P. M. Latham's Works, New Syden. Soc., vol. i., p. 112.

[17] Stirling and Landois: Physiology, p. 451.

be formed.[18] By seizing therefore upon this antecedent of glycocine, salicylic acid lessens the formation both of uric acid and lactic acid.

During the administration of even large doses of salicylic acid in rheumatism, a certain amount of uric acid is still sometimes excreted by the kidneys. How is this to be explained?

As the molecular constituents of albumen fall asunder, the molecule $CH_2\begin{cases}CNOH\\CNOH\end{cases}$ may become detached, and as it passes from the living tissue the CNOH would be transformed into CO – NH, consequently the above molecule would be converted into hydantoin $CH_2\begin{cases}CO-NH\\|\\NH-CO\end{cases}$ which, having little affinity for salicylic acid, would pass on to the glands, and, conjugated with urea or biuret, pass out of the system as uric acid.

I have referred to the necessity of keeping up daily and sufficient action of the bowels. The benefits resulting generally, in rheumatism, from the so-called purgative plan of treatment have always been recognised by the older physicians as striking and satisfactory. By the judicious use of cholagogue purgatives we eliminate the bile from the intestines and so remove from the system a quantity of glycocine, which if re-absorbed would lead to the consequent formation of uric acid. Calomel is unquestionably of service here. Doubts may exist as to whether it promotes the flow of bile from the liver or not; but when the bile gets into the intestine calomel will cause its evacuation. "The conclusion seems inevitable that mercurial purgatives given to healthy persons cause the escape of large quantities of bile from the alimentary canal."[19] Referring to the three modes of treatment—by venesection, by opium, and by purgatives—which were in vogue at the time, Dr. P. M. Latham says with regard to the last: "As this plan of treatment works prosperously day after day in its immediate effects, so day after day it gives an earnest of the remedial impression it is exercising upon the whole disease. It abates the fever, it softens the pulse, it reduces the swelling, and it lessens the pain. In short, it subdues the vascular system like a bleeding, and pacifies the nervous system like an opiate; and often in the course of a week the acute rheumatism is gone. In three days there is often a signal mitigation of all the symptoms; and in a week I have often seen patients, who have been carried helpless into the hospital, and shrieking at the least jar or touch or movement of their limbs, risen from their beds, and walking about the ward quite free from pain.

"Of this plan, often so striking in its operation, and often so satisfactory in its results, I have some further remarks to make. It is called the purgative plan; yet its purpose is achieved by calomel and purgatives conjointly. The purgatives would not answer the end without the calomel—of that I am quite certain; neither would the calomel answer without the purgatives, unless it produced of itself ample evacuations from the bowels. It is probable, in short, that the remedial efficacy of the plan resides essentially in the calomel; in calomel, however, not as *mercury*, but as itself—*calomel*. If the specific effect of mercury—salivation—arise, it is not only beside our purpose and against our wish, but it begets a serious hindrance to the use of calomel in sufficient quantity for the end in view. Thus the whole plan is frustrated. Having begun one plan of treatment, we are obliged to take up with another. Time is lost, the case is perplexed, the disease is prolonged, and the patient perhaps injured. ..... Now, if in the treatment of acute rheumatism you were to choose one indication and abide by it, and were to trust one class of remedies and to it only, you would find more cases that admit of a readier cure by the method now described than by either of the former two. You would find the aggregate of morbid actions and sufferings, which constitute the disease, more surely reached and counteracted and more quickly abolished by medicines operating upon the abdominal viscera only than by those which influence either the bloodvessels only or the nerves only. You would find in calomel and purgatives a better remedy than in either venesection or in opium."[20]

In the earlier attacks of gout, too, I have often seen marked relief follow the administration of calomel and a saline cathartic. Where there is high arterial tension, as in the gouty paroxysm, this may be distinctly lowered by these remedies. They check the further formation of uric acid which is stimulating the vaso-motor centre and causing the increased arterial tension, by eliminating the bile from the intestines. In some persons calomel has a depressing effect, and when the kidneys are unsound is injurious in its action. Where calomel is inadmissible, a gentle laxative such as rhubarb is often of service. When the object is simply to unload the bowels in a debilitated subject, it is the best purgative. It is said to act chiefly by increasing the peristaltic action of the bowels throughout their entire extent, but especially that of the duodenum. According to Rutherford, it is a cholagogue. Sir Henry Halford recommended it as a prophylactic remedy against gout: a few grains of rhubarb with double the quantity of magnesia every day; or some light bitter infusion with tincture of rhubarb and about fifteen grains of bicarbonate of potash. The saline cathartics probably act only by causing serous evacuations, and in that way carry off from the blood some of the poison contained in it. They may also act beneficially, perhaps, by relieving a congested liver.

The diet is another important point to be attended to in the treatment both of gout and rheumatism. It should be simple and nutritious; jellies and food containing gelatine should be avoided, as this substance furnishes glycocine. Animal food will not itself produce uric acid in a healthy system, as is shown by its absence in the urine of the carnivora; but from all kinds of meat a certain amount of glycocine will be produced, and even if all the rest of the nitrogenous portion after being absorbed into the system were converted into urea, this would necessitate an increased elimination of urea, and consequently a greater tax on the powers of the kidneys. If these powers are weakened, there will be, with an increased call upon the organs, less power to act, and not only the urea, but, still more, the uric acid, would accumulate in the blood. The striking benefit and increased urinary secretion which result in some forms of albuminuria from a skim-milk diet—that is, the simplest of all diets—very well illustrate what I mean here. The presence of urea in the blood may, by its action on the nerve-centres, determine an increased blood-supply to the kidneys, and so, in a healthy state of things, an increased secretion; but if the secretory portion is damaged, or the nerve force controlling it defective, an increased flow of blood to the part, producing a congested condition of the organ, would not expedite, it would rather hinder, the work of the secretory portion. The simpler the diet then, the less tax there will be upon the kidneys, and the better they will do their work. Let the diet be chiefly farinaceous, with just sufficient nitrogenous food to satisfy the wants of the system—and in acute attacks let that be in the form of milk, diluted even if necessary.

The explanation which I have here offered of the symptoms of a gouty paroxysm helps us to understand the beneficial action of colchicum in this disorder. According to Dr. Lauder Brunton[21] this drug paralyses the sensory nerves, the motor nerves and muscles being unaffected. It seems to act best when the bowels are previously acted upon. If in gout, then, uric acid during the paroxysm is stimulating the sensory nerves and through them the more active portion of the vaso-motor centre, and we paralyse the sensory nerves with colchicum, the uric acid no longer produces its effect and the paroxysm ceases; but colchicum has no effect in preventing the formation of uric acid, and after the paroxysm we must endeavour to prevent its recurrence by putting a stop to the formation of the poison, which we may effect by eliminating the bile from the intestines by mercurial or other purgatives, by giving benzoic or salicylic acids and by suitable diet. In large doses colchicum will cause purging, but marked symptoms of collapse supervene, so that it is not safe to exhibit the remedy in this way.

It remains for me to say a very few words with regard to the pathology of diabetes, and to explain why I have classed it together with gout and rheumatism. If the function of the liver be interfered with, so that there is imperfect metabolism of glucose as it passes through the organ, this would be a satisfactory explanation of the origin of the disease, and we should expect in such cases that the urgency of some of the symptoms would be lessened by careful diet and abstention from saccharine and starchy food. But there are other cases in which the diet seems to have much less effect in controlling the symptoms; it is this form that I wish briefly to discuss.

[18] See page 628.

[19] H. C. Wood, jun.: Treatise on Therapeutics, 2nd edit., 1877, p. 435.

[20] Dr. P. M. Latham's Works. New Syden. Soc. vol. i., pp. 123, 124.

[21] Pharmacology, 1885, pp. 968, 969.

I have endeavoured to show that in acute rheumatism, by the separation of the cyanalcohols $CH_2\begin{cases}OH\\CN\end{cases}$ and $C_2H_4\begin{cases}OH\\CN\end{cases}$ from the rest of the albuminous chain, we have glycocine and glycollic and lactic acids formed, the glycollic acid being oxidised into CO_2 and water, the lactic acid in some measure being oxidised into these products, and in some measure passing off by the skin. But suppose that whilst the vaso-motor fibres of the muscular nerve are paralysed and the vessels dilated, the molecules $CH_2\begin{cases}OH\\CN\end{cases}$ are detached and hydrated into glycollic acid, but only partially oxidised, the result would be that the glycollic acid would be transformed into carbonic acid, methyl aldehyde and water:

$$\underset{\text{glycollic acid}}{CH_2\begin{cases}OH\\COOH\end{cases}} + O = CO_2 + \underset{\text{methyl aldehyde}}{H\,.\,CHO} + H_2O$$

Condensation of six molecules of the aldehyde may then take place, as in plants, forming glucose:

$$\underset{\text{methyl aldehyde}}{6H\,.\,CHO} = \underset{\text{glucose}}{C_6H_{12}O_6}$$

By urari, as I have already stated, we can put a stop to muscular contraction, that is, to the oxidation of the muscular elements and to the formation of CO_2 when the muscular nerve is stimulated. If, then, the tissue be, so to speak, partially ururised, the aldehyde is not oxidised, but condenses into glucose. In urari-poisoning sugar appears in the urine, though "the exact way in which this form of diabetes is brought about has not yet been clearly made out."[22]

Let me carry you one step further in the comparison between rheumatic fever and diabetes. If in rheumatic fever the central part of the nervous system connected with the muscular nerves is so enfeebled that there is complete dilatation of the vessels in the muscular area, and a falling asunder not only of the molecules $CH_2\begin{cases}OH\\CN\end{cases}$, but also of the molecules $C_2H_4\begin{cases}OH\\CN\end{cases}$ and $C_3H_6\begin{cases}OH\\CN\end{cases}$ then by the hydration and oxidisation of these, hyperpyrexia would in some measure, as I have suggested, be developed. But if the complete oxidation of these molecules were interfered with, the $CH_2\begin{cases}OH\\CN\end{cases}$ would give rise in the manner above indicated to glucose. By hydration $C_2H_4\begin{cases}OH\\CN\end{cases}$ would be converted into lactic acid, which, if not completely oxidised into carbonic acid and water, would be first oxidised into carbonic acid and aldehyde:

$$\underset{\text{lactic acid}}{C_2H_4\begin{cases}OH\\COOH\end{cases}} + O = \underset{\text{aldehyde}}{CH_3\,.\,CHO} + CO_2 + H_2O$$

the aldehyde by condensation forming para-aldehyde, a remedy recently introduced as a hypnotic. Hence the drowsiness which shows itself in some stages of diabetes.

If the molecules fall still more completely asunder and the molecule $C_3H_6\begin{cases}OH\\CN\end{cases}$ become detached and hydrated into oxybutyric acid, but only partially oxidised, then from one form of this acid, acetone would be formed:

$$\underset{\text{oxyisobutyric acid}}{C_3H_6\begin{cases}OH\\COOH\end{cases}} + O = CO_2 + H_2O + \underset{\text{acetone}}{CO(CH_3)_2}$$

which appears in the urine towards the termination of the disease. So, then, in hyperpyrexia there is detachment of the molecules from the benzene nucleus, with their hydration and rapid oxidation; whereas in acetonæmia there are detachment and hydration, but imperfect oxidation of the molecules. That is to say (if this theory is correct, and such experiments were possible), by ururising an individual suffering from rheumatism with pyrexia the urine would become saccharine; if hyperpyrexia were present, by urari the disorder would be transformed into acetonæmia.

Now you will find that in some forms of diabetes salicylic acid is of the greatest service, whereas in others no good results from its use. Given in doses of from ten to twenty grains three times a day, I have frequently seen it produce marked improvement, and Dr. Holden, of Sudbury, has shown me notes of cases, about to be published, where rapid amelioration of the symptoms has resulted from its use.

The urine in these cases contains often, in addition to glucose, an excess of uric acid, and the patients suffer from neuralgic pains in the joints and limbs. It also not infrequently contains some substance which dissolves cuprous oxide, and so more or less interferes with the application of Fehling's test. What this is has not yet been determined. My friend, Mr. Pattison Muir, kindly examined some specimens, and made out that it is some substance which readily dissolves calcic phosphate. Possibly it may be glycollic or lactic acid. If further examination should prove this to be the case, it would go a long way to support my view of the origin of this form of diabetes.

I have thus endeavoured to indicate some of the changes in the nervous system, the blood, and the tissues which may take place in diabetes, rheumatism, and gout, and to enlarge upon the text furnished by a far-seeing pathologist,[23] when he wrote: "Disturbance in the nervous system in some form and part may be regarded as a factor in every case of gout. There are reasons enough for thinking that changes in the nervous centre determine the locality of each gouty process, while changes in the blood and tissues determine its method and effects; and that thus we may explain the symmetries of disease in gout—sometimes bilateral, sometimes antero-posterior,—and thus its metastases."

My task is done. It only remains for me to thank you, Mr. President and the Censors, for giving me an opportunity of placing my views before the College, and to the distinguished Fellows and Members who have listened to me. I have brought together a number of facts, and endeavoured to draw certain inferences from them. The inferences may be wrong, but the facts remain; and I trust that in this way, at least, I may have helped to a better understanding of these disorders.

[22] Foster's Physiology, 4th edition, p. 425.

[23] Sir James Paget: Clinical Lectures and Essays, 1879, p. 382.

ABSTRACTS OF THE

Lumleian Lectures

ON THE

ELECTRICAL CONDITIONS OF THE HUMAN BODY.

BY WILLIAM H. STONE, M.A., F.R.C.P.

LECTURE II.

HAVING briefly reviewed the first lecture, Dr. Stone proceeded to say that he had estimated the electrical resistance of the human corpse by inserting silver needles through the skin into the flesh, by which means the influence of the insulating, badly conducting skin was eliminated. The result showed that the estimations made on the living human body were correct, for the resistance was found to be slightly higher—at all events, it was not lowered. The chief topic of the second lecture was electrolysis as it occurred in the human body. All fluids acted as electrolytic agents, and so also bodies imbibed with fluid. The classical works of Dubois-Reymond and Count du Moncel on human electrolysis were noticed. The lecturer then exhibited an artificial electrical schema, in which the solutions and poles employed were the same as he had made use of in his determinations of the electrical phenomena of the human body. That polarisation takes place was very evident, and it appears, when physically studied, in the form of increased resistance. The work of Dr. Waller and Dr. de Watteville, published in the Philosophical Transactions of 1882, was also referred to.

As it is clear that electrolysis goes on during the passage of a current of electricity through the body, it is equally clear that there must be an accumulation of electromotive force in the body. The body is therefore a secondary battery which can be charged with electricity; at least, that

is one way of interpreting the facts of experiment. The body can be charged, and, having its charge, it can also discharge. This fact was demonstrated to the audience by means of the galvanometer. It was first tried on the artificial electrical schema, and then on a living man. An initial "throw" or deflection of the galvanometer was observed when the charged schema or man was brought into electrical communication with the galvanometer. The initial "throw" subsides rapidly at first, but a permanent deflection of the galvanometer remains for some time, showing of course that the body or schema was still discharging. As to this capacity of the body to become charged and to discharge itself, Dr. Stone used to consider that it was of the nature of a condensation of electricity by the body, but he has modified his earlier views owing to certain investigations of Prof. Hughes; so that he now believes, with the last-mentioned authority, that it is a matter of self-induction of the body. The initial "throw" of the galvanometer represents this induction, and the permanent deflection corresponds to the counter-electromotive force. The discharging current continues steadily and for a much longer time than was anticipated.

The results of some observations on certain cases were next given. In one case of sciatica where the leg was greatly wasted, and in which the resistance was somewhat high, the man was charged for thirty minutes with ten bichromate cells, the current passing from foot to foot. The initial "throw" was represented by 250 divisions of the scale. That this was really due in great part to the patient was proved by eliminating the possible influence of the lead contacts. The second case was one of diabetes. The patient was charged with a constant current of fourteen volts for half an hour, passing from the forehead to both feet, in a vessel of water. The resistance was found to be 600 ω, or after correction by Mance's method 543 ω. This case gave a polarisation current of no less than 137 ohm. The electro-therapeutical treatment of diabetes had been shown to be of transient value by M. Semmola. A third case, also of diabetes, was next related. The patient was very ill. His resistance was 1100 ω, or 1020 ω after correction by Mance's method. He gave a polarisation current equal to 145 ω, a very large counter-electromotive force, much larger than has ever been expected.

The resistance of the real man is somewhat less than that of the schema. As experiments already made by Dr. Stone with Mr. Lant Carpenter have shown, the resistance is increased by the polarisation resulting from the passage of the current. The charged body discharges very much after the fashion of a secondary battery. This information opens up a field of speculation in electricity as applied to the animal, and more especially to the human body. Even after but two volts have been used in the charging process, the body continues to discharge electrical force for several hours. Allowance being made for the swing of the galvanometer needle, it was shown that a current as feeble as two volts had the capacity to develop a counter-electromotive force which could be detected for some hours after the charging force had been removed. Two volts was a very feeble driving force, and only just sufficient to oppose and overcome the normal resistance, which might be appraised at about one volt. The electrostatic capacity of the body might be differentiated into a special capacity for condensing electricity and a capacity for electrolysis. But it is very doubtful whether a differentiation ought to be attempted; it was better to say that self-induction of the body took place. These researches have a very important bearing on physiological matters such as the phenomena of "electrotonos." Dr. Stone averred that he had always been sceptical as to the reality of electrotonos. The inconstant and variable results obtained by various authors working at this phenomenon were alluded to. Rosenthal admitted that the rise and fall of the electrotonic state sometimes went one way and sometimes another; and the paper by Dr. Waller and De Watteville, which quoted Fick, Eulenberg, Erb, Sanft, and others, showed what opposite conclusions had been come to. It had been suggested that the inconstant results were due to inconstancy of the nervous matter. But the lecturer humorously suggested that it was too bad to saddle the nervous matter with such inconstancy. The statements of Rosenthal were all consistent with conditions due to polarisation. He considered that too much stress had been laid on physiological points; no care had been made to ascertain whether the physical agent employed was always uniform. Anode and cathode were purely fictitious terms; the current might, for aught we knew, go in the opposite direction. We do know, however, something real about the two terminals and that related to electro-chemistry. The so-called positive terminal oxidises, whilst hydrogen is liberated, and bases are separated from the so-called negative pole. We know also that the passage of the current in the same way produces in the living human body a secondary battery of no inconsiderable power. Again, the phrases "cathelectrotonos" and "anelectrotonos" were unscientific; with weak currents the rise of cathelectrotonos was said to be near the anode: what was the meaning of that? It was probable that the phenomena of electrotonos ought really to be regarded as effects of electro-chemical decomposition in nervous tissue of a polarisation kind. Again, such inaccurate expressions as currents of medium strength were held up to deprecation; we ought to know what the intensity of the current was in ampères. If the electromotive force of the current is sufficiently strong to overpower the counter-electromotive force of the body, electrolysis will take place. But no means have been taken to measure this. Rosenthal admits that the effects are inconstant. There is also a possible error in the tetanising key of Dubois-Reymond, which did not cut off the current entirely from the long circuit. Here the law of inverse proportions also held good; most of the current goes through the short circuit, but some still traverses the long circuit, and this was another source of inconstant effects. If the induction coil be added to the constant current, the problem becomes infinitely more complicated and physically past accurate solution; if the induction coil alone be used, the problem is sufficiently complex. According to Waller and de Watteville,[1] the laws of diffusion are the same for each current; but Dr. Stone asserts that this is a distinctly false assumption. The induced current meets with but half to two-thirds the resistance of the constant, the exact proportion being 1141 ω to 575 ω. In believing that they had to deal with physiological signs alone, authors had fallen into error. As above shown, Dr. Stone maintains that the physical constants have not all been determined. Another point that has stood in the way of accuracy was the employment of over-sensitive galvanometers. Again, the entirely empirical indications of the galvanoscopic frog, no two of which have the same constants—nor can these be determined,—gave false results. So that whilst allowing that the phenomena, though admittedly inconstant, have been well and carefully observed, the lecturer was decidedly of opinion that much of the inconstant results—laboriously misunderstood and ingeniously misinterpreted—would prove to be due to purely physical conditions. The lecturer then demonstrated the telephone method of detecting and estimating electrical currents. It was a method of great delicacy, and had the inestimable advantage that it could be commanded, controlled, and measured. It might take the place of the galvanometer in Wheatstone's bridge, for the telephone could be silenced when the resistances in the two coils were equal.

A CASE OF SO-CALLED HYDROPHOBIA;

WITH REMARKS ON THE NATURE AND TREATMENT OF THIS DISORDER.

By CHARLES W. DULLES, M.D.,

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About two years ago I had just completed the preparation of a paper on the "Disorders mistaken for Hydrophobia,"[2] in which I had attempted to describe systematically the sources of error which I believed to lie at the foundation of a large number of diagnoses of hydrophobia, when I was suddenly summoned at midnight to the assistance of a colleague who had the care of what he thought to be a case of this disorder. The occasion was welcome, as affording me a new opportunity to study clinically this subject, which has so much engaged my attention; but it was also trying, since I felt that at this very time any error—although it might be due solely to my own incapacity—would seriously compro-

[1] Phil. Trans., p. 963.

[2] See Transactions of the Medical Society of the State of Pennsylvania, vol. xvi., 1884; also Reprint, 8vo, pp. 37, Philadelphia, 1884.

mise what I believed to be an important truth. With this thought to counsel prudence, I soon found myself in the presence of the patient, and in the midst of such a scene of horror and confusion as those can recall who have been so unfortunate as to witness a case of so-called hydrophobia. The essential features of the case may be described as follows: The patient was a little boy, about eight years old, of previous good health, who had been taken sick on the afternoon of the preceding day, March 16th, 1884. He first complained of a toothache, did not wish to eat, and had some pain in the stomach and in the throat. In a few hours he began to have nausea, and vomited. At first the vomited matter was "phlegm." He was said to have refused absolutely to swallow anything solid or fluid, although when I saw him there was no special prejudice against water; and, in fact, he was induced to take some from a spoon. He had also developed delirium, jumping up and running away from the couch upon which he was placed. He had fever and irregular convulsive movements, and was said to have "barked like a dog." Dr. Chase, having been called to see him, found that a tooth, which the boy said ached, was very loose, and pulled it out with his fingers. Led by the evidences of dysphagia mentioned, and noting the unwillingness to drink, he made inquiry and learned that the boy had been bitten by a dog more than twenty months before. The idea of hydrophobia presented itself to his mind, and he began a course of treatment to quiet the nervous system. This consisted in the administration of bromide of potassium, followed by suppositories of chloral hydrate, and later one-twelfth of a grain of morphia hypodermically, in spite of which the vomiting and the delirium continued. At this point he requested that I should see the case in consultation with him.

On my arrival, I found, in a small room containing a hot stove and crowded to suffocation, a well-nourished-looking small boy sitting on a lounge partly held by his father, tossing himself about, making inarticulate cries, constantly retching, and vomiting a glairy grumous fluid, in small quantity and with great effort. His penis was a little turgid, but not erect. His eyeballs were movable, but they moved slowly, and were directed upwards most of the time. His pupils were widely dilated, so that a mere line of the iris was visible. The cornea were very dry. The conjunctivæ were congested, and, like the corneæ, were dry. The pulse was very rapid and tumultuous, the breathing catching. The legs, being constantly exposed, were cool, the body was warm, and the head was hot. The heat of the head was most marked at the temples. There was no excessive perspiration. There was great sensitiveness upon pressure on the forehead, which always excited resistance and convulsive movements. The ears were scarlet. The tongue was not especially dry. There was no spitting and no aerophobia whatever. The child was susceptible to the influence of soothing tones, and at intervals he seemed to know those about him, and to attempt to reply to questions. After making these observations we had the child removed to a well-aired room where we could be alone, and a new examination was made, every organ, so far as was possible, being passed in review. The conclusion I arrived at after this examination was that the membranes of the brain were inflamed, both on its convexity and at the base. There was now much jactitation, but the efforts at vomiting were less frequent. The boy had phantasies—stretching out his hands and talking in thick tones to comrades whom he fancied to be present. At times he seemed to be in terror, but at no time was it clear what shape the object which frightened him assumed. He struggled, but without any preternatural strength, against the little restraint which was occasionally required to keep him from getting out of bed. At times he appeared to be pretty calm, but he never was quite himself. Slight pressure on his forehead produced new paroxysms. All this time there was no aerophobia or dread of noise or light. The pupils were always dilated. We decided to give the child no more medicine, but applied cloths wrung out of hot water to his spine. These seemed to afford a little relief. After a while we determined to administer large injections of cool water, in order to produce a soothing effect and to wash away any irritant which might be in the lower bowel. The first injection consisted of over a quart of cool water, and it passed beyond the sigmoid flexure, as we ascertained by a physical examination, and was retained about fifteen minutes. Under its influence the patient was manifestly soothed, and his agitations ceased almost entirely. This injection passed away in instalments. After an interval of about half an hour another injection was given, but this was expelled almost immediately. With neither was there any discharge of fæces. (The necropsy showed the whole bowel to have been washed clean.) After this the patient seemed to be decidedly more comfortable, and we left him in the sole care of his father, who watched over him with great solicitude. His breathing had become quieter, and he had ceased to toss himself about as he had done, when, at 3 A.M., Dr. Chase and I left him, promising to return soon. We did return at 7.30 A.M., and found that the child, after a few hours of comparative peace, had expired quietly at 7 o'clock.

A necropsy was made three hours after death, at which Drs. A. F. Chase, W. E. Hughes, and myself were present. The body was still warm, the chest and throat most so, and the legs were cool. The eyes were partly closed and the pupils less dilated than when we last saw him. Rigor mortis very marked. Face and back cyanotic. On the free border of the upper lip, near its middle, was a small linear cicatrix, which was said to be the mark of a dog-bite received over twenty months before. On examining the head, all the vessels of the scalp were found gorged with blood. On removing the skull-cap, the bone was found to adhere very firmly to the dura mater in a number of places, chiefly along and near the superior longitudinal sinus. The most marked adherence was along the course of the left middle meningeal artery. This was bordered by thickening and roughening of the outer surface of the dura mater. The venous channels of the dura mater were full of dark blood. There were a large number of old adhesions between the dura mater and the arachnoid. These were very marked under the frontal and middle cerebral lobes, and most conspicuous and numerous between the medulla oblongata and the cerebellum. Some adhesions were also found under the cerebellum. The vessels of the surface of the brain were stuffed with blood. A quantity of blood and serum, estimated at three fluid ounces, was found at the base of the brain, in the cavity of the arachnoid. It was thought that about half of this came from the divided vessels. The puncta vasculosa were very well marked, and exuded dark blood. The ventricles did not contain any excess of fluid. The ependyma was injected. There were some delicate adhesions between the walls of the lateral ventricles, and between these and the choroid plexus. On cross section, the left optic nerve showed appearances of congestion, and even of extravasation. At the base of the brain there were many points of adhesion between the arachnoid and the dura mater and pia mater. On the floor of the fourth ventricle there was an appearance of marked congestion, and a few small extravasations the size of a pin's head. In the cerebellum nothing abnormal was found, except the evidence of inflammation of the membranes. There were no signs of recent lymph on the membranes. The lungs were engorged with blood, but perfectly crepitant, though there was some lobular collapse. There was no emphysema. The pericardium was healthy-looking, and contained a normal amount of clear serum. The heart was of normal size, healthy-looking, firmly contracted, and contained in the left ventricle a small quantity of dark clot, with a very little white clot in the pulmonary artery. There were a few small extravasations beneath the visceral layer of the pericardium. The abdominal viscera appeared to be perfectly healthy, except the liver, which had a slightly fatty appearance. The mesenteric glands were large, some the size of a large bean. None were cheesy. The bowels and stomach were almost entirely empty. (It will be remembered that the lower bowel had been washed out.) The gall-bladder was full of greenish-yellow bile. The urinary bladder was healthy, and firmly contracted upon about two drachms of clear urine.

Upon making further investigation as to the history of the child just before his illness, we learned that he had recently had a fall upon his vertex from a height of a few feet. We also found that the history of the bite was as follows:—One summer day (June 20th, 1882) the child was sitting on a door-step eating a piece of bread-and-butter, when a neighbour's dog ran up and snapped at it, in doing which he caught and tore the boy's upper lip slightly. The wound was not cauterised, and it healed without any trouble. The dog was caught and was shot by a policeman, at which the owner was very angry, insisting that the animal was perfectly healthy. No ill effect had followed the bite from the period of its infliction to the present time. In view of what we had learned of the history and from the symptoms

presented, I had made the diagnosis that this child was suffering from meningitis, and predicted that he would die in a few hours, and that if we could secure a necropsy we should find the evidences of inflammation both on the convexity and at the base of the brain. These predictions were absolutely verified, and I believed then, and I believe still, that the diagnosis was thereby fully sustained. Notwithstanding these facts, Dr. Chase considered the case to be one of hydrophobia. But was it? Let others judge for themselves. For my own part, as I have said, I firmly believe that it was a case of meningitis, and I felt at the time, and feel yet, that this experience justified, in the first crucial test to which they were subjected, the views which are expressed in the paper on the "Disorders mistaken for Hydrophobia," which was then so soon to be made public. Meningitis was one of the disorders about which I had not felt it necessary to argue much, because I thought that little argument would be needed. And yet, as I have said, the gentleman who called me to his assistance in this case insisted then, and still insists—against the evidence, as I believe, and in a line with what, without wishing to be invidious, I would designate as the popular impression—that it was a case of hydrophobia. I will admit that it has as many marks of genuineness as a vast number of the reported cases of hydrophobia. But here is just the trouble. It illustrates the greatest difficulty in getting at a scientific idea as to the nature of this disorder. The usual rule seems to be that, given a certain series of convulsive phenomena with unwillingness to swallow, which are not controlled by ordinary or even by extraordinary measures, and followed shortly by death, the case is one of hydrophobia. If it is followed by recovery it is said to be spurious hydrophobia. The fact that the patient was bitten by a mad dog is confirmatory of, but not indispensable to, the diagnosis. The madness of the dog, and even the fact of a bite or lick, may be assumed from the phenomena presented by the patient. This I believe to be the source of grave errors. If ever we are to have an accurate scientific understanding of what goes by the name of hydrophobia or rabies in men or in animals, we must first learn to define these terms better than they have ever yet been defined. I cannot repeat here what I have elsewhere considered in detail;[3] but I desire briefly to state that I have found that there are no essential differences in the clinical phenomena or issue of cases of so-called hydrophobia attributed to the most various causes: to the bites of a great variety of animals, rabid and healthy, including birds, fleas, and lice (Bollinger, Jolly); to the bites of human beings; to germs distributed in the earth and air (Doléris); to the kissing of a mad dog before it was hung (Bardsley); to drinking the milk of a rabid animal, to suckling (Roucher), and to coitus (Bollinger); to the handling of sabres used in killing rabid dogs (Virchow); and, finally, to a spontaneous origin, the most recent illustration of which was a patient who died under the care of Dr. Dujardin-Beaumetz, in Paris, in January of this very year. In one of the papers already mentioned I have described the occurrence of the symptoms of hydrophobia in a large number of disorders, and I here only refer to it for one of the most interesting and important phases of this literally vital question.

I cannot conclude without saying something in regard to the curability of hydrophobia. My studies have led me to the conviction that the prevailing despair as to the issue of this disorder is a sad mistake. Whatever hydrophobia may be, it cannot be said to be incurable. As genuine cases have recovered as have ever died. There is no better evidence for believing in the occurrence of hydrophobia than there is for believing it has been and can be cured. It is not consistent to hold to the one and to deny the other. To call cases that recover spurious is to beg the question. If there is a definition of hydrophobia which can be said to bear the stamp of authority, it fits a large number of cases which have recovered; and to assume that the disorder is always fatal is to select the worst way either to understand or to combat it. In fact, I think we shall have better notions in regard to the whole subject of hydrophobia, if we compare the disorder to convulsions, and use the word "hydrophobia" just as we do the word "convulsions," to describe a series of phenomena which may be due to various causes. In some cases these causes as yet elude detection; in others a careful search will lead to their discovery. A rational method of treating what is called hydrophobia will never, I believe, be established until we recognise the fact that it is not a single morbid entity, not a specific inoculable disease, but, like convulsions, a series of phenomena, the first step to the treatment of which must consist in remembering that it may be due to a great many different causes, and in endeavouring to find out what is the cause in each particular case. In many cases it will be possible to discover some disease of which the hydrophobic symptoms are merely epiphenomena. This done, the prognosis and the treatment must be made to conform to the diagnosis. When this becomes a custom, we shall less often have deaths from acute meningitis, or pericarditis, or tetanus, or mania-à-potu, or acute mania of any kind, unjustly charged to hydrophobia. Nor shall we then hear so regularly of the fruitless administration of overwhelming doses of morphia, chloral, belladonna, or curare, which are as great a confession of the impotence of medical art as are the violent measures of restraint which are so often employed, and but little less a confession of this impotence than is the act of smothering a patient to death, which *is said* to have been practised in this year of grace in the State of New York!

[3] Remarks on Hydrophobia: Proceedings of the Philadelphia County Medical Society, vol. v.; and Philadelphia Medical Times, Aug. 11th, 1883. Criticisms on the Specific Theory of Hydrophobia: Transactions of the College of Physicians of Philadelphia, third series, vol. vii.; and New York Medical Journal, Dec. 29th, 1883.

NOTES ON A CASE OF

CIRRHOSIS OF THE LIVER PRESENTING UNUSUAL POINTS OF INTEREST.

BY SURGEON-MAJOR F. P. STAPLES,
MEDICAL STAFF.

A SHORT while since I was asked by my friend Dr. Patron, of this city, to see in consultation with him H. R——, a young man sixteen years of age, suffering from ascites, and who had been ill with that symptom for about two months. With the exception of the abdominal superficial veins not being much enlarged, the clinical characters of the dropsy were those of liver cirrhosis, and this opinion was strangely supported by the family history of the patient. Twelve months previously an elder brother had died of that disease, and a necropsy had confirmed the diagnosis; about a year previously to that event a sister succumbed to the same malady, and in her case also the disease of the liver was verified by post-mortem examination. In the case under notice the onset of the disease was very insidious, and it was not marked in any way by pain or other symptom of acute disease. Its progress was characterised rather by a gradual failure of health, and the first tangible symptom observed by his friends was his increasing abdomen. In coming to a diagnosis, we found some slight increase of the splenic dulness, and, as the patient had recently resided in a somewhat marshy district, Dr. Patron suggested an examination of the blood, to the results of which it will perhaps be most convenient next to allude. Altogether three examinations were made—viz., one at the period of the case first referred to, one about six weeks afterwards, and a third about ten days before death, which occurred in about three months from the date of the consultation. In the first examination there was an enormous excess of the colourless corpuscles, and these, without exception, apparently were covered with processes or projections which gave them the appearance of the dried fruit of the black pepper. I did not observe the amœboid movements of these processes described by Mr. Wharton Jones, but my examination was purely a clinical one, and, had it been sufficiently prolonged and repeated, no doubt I should have done so. In addition to these large cells, which almost filled the field of the microscope, there were also a number of molecules or granules, but the normal red corpuscles of the blood were not to be distinguished. In the second examination the large cells were still visible, but they had almost lost the cell or globular shape. They were for the most part somewhat triangular in outline, the processes forming the angles being more or less blunted, and the sides deviating somewhat, generally outwards, from the straight line. In the third examination the large cells had entirely disappeared, and the field was entirely occupied by amorphous particles in a plasma having a distinctly yellow colour.

It will be convenient next to complete the clinical history

of the case. From the period mentioned its progress was very rapid, and in about two months it was necessary to perform paracentesis. The usual relief to the embarrassed organs of the thorax followed this operation, but the patient suffered considerably from abdominal pain for about a week afterwards. The fluid reaccumulated with great rapidity, and in six weeks or thereabouts there was again necessity to tap him, but the performance of the operation was not desired by his relatives, and did not, in fact, from his then condition, seem advisable. Soon afterwards he was seized with hæmatemesis and died within a few days, death being preceded by an unusually long comatose stage—about seventy-two hours.

The post-mortem examination extended only to the abdominal cavity, permission to make a limited dissection only having been received. The liver, which was moderately contracted, presented the appearance of an ideal specimen of the hobnail variety of cirrhosis. The surface tumours resembled unripe cherries in size and appearance, and on the surface of some of them tortuous bloodvessels were to be seen. On a deep section being made, the division of the organ into spherical lobules, corresponding in size to those visible externally, was well observed. The surface was free from adhesions or other evidence of a peripheral inflammation. Sections under the microscope corresponded in appearance with the illustrations (after Dreschfeld and Young) of this disease in the New Sydenham Society's Atlas of Pathology. The spleen was enlarged, but only to a moderate extent. There was no sclerosis of its tissue, but this was somewhat more soft and friable than normal.

Remarks.—The foregoing case would appear to offer for consideration the following points of special interest—namely: 1. The age of the patient. 2. The fact of his having been the third successive member of the same family who died in adolescence from the disease in question. 3. The abnormal condition of the blood. I am aware that there is nothing extraordinary in the age of the patient, but still it is decidedly exceptional. It may be considered, further, in connexion with the second point, which seems to me to be a unique experience, and more especially when it can be alleged with absolute certainty that in none of the three cases was there a suspicion of any of those agencies with which we are accustomed to associate cirrhosis of the liver. It is to be recorded, however, in regard to one of those agencies, that there was a history of long-continued alcoholic excess on the part of the father of the children. It is true that his death, which took place about five years ago, was not due to liver disease, but to cerebral apoplexy; there is, however, a fair presumption that in his case there were degenerative hepatic changes due to the cause under observation. Did he then transmit to his offspring a diathesis hereditarily determining cirrhotic atrophy of the liver? That seems a fair inference from the detailed medical histories of the children, but in relation to the broad question of pathology the question is a new one, to me at any rate; but if it be possible to answer it in the affirmative from the foregoing experience, it will serve to explain some of those anomalous cases of this disease in regard to which Frerichs has written the following pregnant sentence: "There are undoubtedly causes of cirrhosis with which as yet we are totally unacquainted." There is next to be considered the question of the condition of the blood, and under this heading it is perhaps necessary to allude to the diagnosis of the case. It may be said that the patient was the subject of two intercurrent diseases—viz., cirrhosis of the liver and splenic leucocythemia. Such an impression was entertained during the clinical progress of the case, but obviously it was not supported by the post-mortem examination, and the blood-cells already described, although resembling those of leucocythemia, were larger and much more numerous than are generally the leucocytes, even in advanced splenic disease. How, then, is the condition of the blood to be accounted for? It is not expedient perhaps, in a scientific sense, to offer any explanation from a single case; but it is hoped rather that by placing it on record the attention of pathologists may be directed to a subject which does not yet appear to have received adequate investigation.

Gibraltar.

MR. GEORGE FISHER, M.B., C.M. Edin., a well-known Scotch doctor, was found late on Sunday night lying dead on a sofa in his back shop at Millport, Island of Cumbrae. The cause of death is as yet unknown.

A CASE OF PUERPERAL CONVULSIONS, WITH COMPLICATIONS.

BY W. TYRRELL BROOKS, M.B. LOND.,
PHYSICIAN TO THE RADCLIFFE INFIRMARY, OXFORD.

ON Dec. 29th I was asked to see a case in consultation with Mr. Ballard of this town. The previous history was as follows. Mrs. T——, a young nervous woman, who had been under treatment at intervals for some years for neuralgia and other nervous affections, was expecting to be confined with her second child. On Dec. 19th she was seized with occasional convulsions, accompanied by pain and numbness of the right arm and leg, together with a slight dragging of the right leg in walking. The convulsions increased in severity until Dec. 22nd, when Mr. Ballard was sent for, who, finding the os uteri dilated and labour commenced, delivered the patient of a living child by instruments. After delivery the convulsions continued, but gradually became less severe. One convulsion occurred, however, of a much longer duration than the rest, after which the right side of the body was found to have become weaker than the corresponding side, and in a short time to have become completely paralysed. The convulsions after this became less frequent, and, instead of being general, were now limited to the upper part of the body. The last convulsion occurred on the sixth day after delivery. Ever since her confinement the patient had lain in a state of apathy, without speaking or taking notice of her surroundings. She, however, took readily a considerable quantity of liquid food, though she swallowed with a little difficulty. At first she passed her urine and fæces normally, but on the sixth day after delivery she began to pass them under her.

When I saw her on Dec. 29th she was lying in a state of unconsciousness. When spoken to sharply she endeavoured to put her tongue out, but failed. She followed my movements round the bed with her eyes, but would not follow the movements of my hand when asked to do so. The right leg and arm were completely paralysed, but had not lost sensation. On pricking the right arm or leg with a pin, she uttered a cry of pain, but did not speak, and drew away the corresponding member of the opposite side. Sensation on the left side was unimpaired. She expressed considerable pain when her right leg or arm was suddenly moved. The neck was extended and stiff, and any attempt to flex the head on the chest was resisted, the act being attended with considerable pain to the patient. The pupils were equal and reacted to light. There was not any evidence of facial paralysis. The pulse was 120, tense and hard; the heart sounds normal; respiration 36, rapid and shallow. Over the whole of the upper lobe of the right lung there was bronchial breathing with fine expiratory crepitation. The lochia had continued for three or four days after confinement and then ceased. The tongue was coated and the teeth covered with sordes. The temperature was 101°.

When I saw her again on Dec. 31st there was considerable improvement in the general condition. She had spoken since my last visit, and appeared more sensible. The urine and fæces had been passed normally. The pulse was 120, but much softer; temperature 99·5°; respiration 36. Over the upper lobe of the right lung there was bronchial breathing with abundant crepitation. On Jan. 1st the improvement was still more marked. She answered questions slowly and hesitatingly, but her articulation was perfect. The breath sounds over the right pulmonary upper lobe were softer, and the crepitation still abundant. Respiration 30; pulse 120; temperature 99·5°. There was slight movement of the muscles of the upper part of the right arm and of the right leg. She complained of pain in the head, running down the back of the neck, and although the head could be flexed on the chest, it was accompanied by much pain, together with resistance of the cervical muscles.

On Jan. 4th the patient was practically convalescent. The respiratory sounds over the upper lobe of the right lung were almost vesicular, and the crepitation much diminished. The temperature was normal; pulse 108; respiration 30. There was increased power in the right upper arm and leg, and also some movement of the left lower arm. The patient, though kept scrupulously clean by the nurse, had

developed a bedsore. Since then the case has progressed favourably, and power has gradually returned to the paralysed side.

Remarks.—The case presents several points of interest. 1. The occurrence of puerperal convulsions, without the presence of albuminuria, in a neurotic patient, which continued for six days after delivery. 2. The supervention of right hemiplegia, which came on slowly after a very long convulsion, and in the course of a few days gradually disappeared. This was unaccompanied by facial paralysis, but was followed by the appearance of a bedsore. The gradual onset of and recovery from hemiplegia points, I think, to the occurrence of a small hæmorrhage in connexion with the internal capsule of the opposite side. 3. The presence of aphasia, which, although accompanied by right hemiplegia, I believe to have been functional. This was indicated by the aphasia having preceded the hemiplegia by two or three days, and also by the fact that the recovery of speech was sudden and complete. 4. The pneumonia, which was an extensive apical one, was of a low form, the highest temperature being 101°. In conclusion, I must thank Mr. Ballard for his kind assistance in the notes of the case, and for allowing me to see the patient during her convalescence.

EXCISION OF THE ENTIRE UTERUS FOR CANCER.

WITH NOTES OF A SUCCESSFUL OPERATION.

BY CHAS. E. JENNINGS, F.R.C.S. ENG., M.S.,
ASSISTANT-SURGEON TO THE CANCER AND NORTH-WEST LONDON HOSPITALS.

(Concluded from page 684.)

DR. WALLACE[1] relates four cases of uterine excision. The first two were vaginal hysterectomies for early cancer, and both patients recovered. The last two were for advanced cancer; one operation was performed by the vaginal, the other by the abdominal, method, and both patients died. With regard to partial excision of the uterus, Dr. Wallace[2] condemns the use of the écraseur, as liable to be followed by hæmorrhage, and as dangerous to the peritoneum and adjacent organs; he also cites a case where it was followed by fatal shock, and therefore he discards the écraseur for amputation. For partial excision Dr. Wallace recommends anterior and posterior semilunar vaginal incisions. The uterine arteries and lower parts of the broad ligaments are to be ligatured at a distance of half an inch from the ureters, and the broad ligaments divided between the ligatures and the uterus. The cervix is to be dragged upon forcibly, and severed as high up as possible with scissors. The stump and flaps are to be washed with iodised water, the vaginal flaps being closed with sutures passed through the stump. Where difficulty is experienced in ligaturing the uterine vessels, Sir Spencer Wells's pressure-forceps are to be applied and left *in situ* for thirty-six or forty-eight hours. This operation is only to be advised for very early cancer.

Dr. Carl Schroeder considers it always possible to extirpate the entire uterus, even if wholly diseased. The adjacent parts of the vagina can also be removed, but this author questions the advisability of operating in such cases on account of probable recurrence. Where cancer of the cervical mucous membrane and of the body of the uterus exists there is always necessity for total extirpation. For extirpation of the uterus, Schroeder advises a circular vaginal incision to be made near the cervix, and Douglas's space to be opened. The fundus uteri (retroflexed) is to be drawn down with a volsellum. The broad ligaments are to be ligatured either singly or in separate portions. Whilst removing the uterus a great deal of tissue is to be left between the ligatures and the organ, otherwise the ligatures will slip. The wound in the peritoneum is to be closed, stitching the pedicles into the angles of the wound. A T-shaped drainage-tube is to be inserted and the end wrapped round with salicylated cotton, which must be renewed as often as it is soaked. The stitches are to be removed in fourteen days. Above all, the uterus must be well drawn down during the operation, a proceeding very difficult where the vagina is narrow and the uterus very much enlarged. Schroeder had seven deaths out of twenty-three cases of vaginal extirpation of the uterus. In his hands supra-vaginal excision gave a death-rate of eight out of sixty-four cases, but recurrence generally took place in those who survived the operation.

Professor Olshausen,[3] in a letter to Sir Spencer Wells, recommended the employment of the elastic ligature for ligaturing the broad ligaments at a late stage of the operation. He employs a drainage-tube and iodoform gauze. The elastic ligatures are allowed to remain *in situ* for two or three weeks. Altogether Olshausen performed twenty-eight operations in two years and a half, three of which were supra-vaginal excisions; of these, all the patients recovered but one with a vesico-vaginal fistula. Out of the twenty-five cases of complete extirpation there were seven deaths—two on the day of operation, three of septicæmia on the second and third day, one of carbolic acid poisoning on the second day, and one of iodoform poisoning on the sixth day. Referring, however, to the last edition of Sir Spencer Wells's work,[4] it appears that up to the end of 1884 Olshausen had thirty-four cases of complete vaginal extirpation, with seven deaths. Since there were seven deaths in the first twenty-five cases, it follows that the last nine operations must have been performed without a death, a circumstance which supports the view that diminishing mortality will accompany increasing operative experience of uterine excision. "Among the cases where there had been no reappearance of disease, two years have elapsed in two cases, in one case two years and a half, and in two cases three years; but in a larger proportion there has been reappearance in between one and two years." Olshausen emphasises the fact that the special danger of the operation is injury to the ureters, which appear to have escaped by stripping them up, together with the loose cellular tissue which surrounds the supra-vaginal portion, by means of the fingers.

On the other hand, a case is recorded in which M. Jules Boeckel of Strasburg[5] *dissected out* the tissues between the uterus and bladder. A urinary fistula from injury to a ureter resulted, for which nephrectomy was performed, and the kidney removed was a healthy one. The patient recovered, left the hospital within six weeks of the first operation, and remained healthy, with the exception of polyuria, passing 1800 grammes of urine daily. She died in the seventh month, and a necropsy disclosed cancerous degeneration of the abdominal glands and parenchymatous inflammation of the remaining kidney.

A case is reported by Dr. Hennig (Leipsig)[6] where the patient had survived vaginal extirpation eight months at the time of communication. There was then no recurrence. The steps of this operation were—(1) anterior vaginal incision; (2) separation by the fingers of the anterior fold of the peritoneum; (3) anteversion of the uterus and enucleation of the organ; (4) removal of a cancerous nodule from the rectum. The wound in the rectum was closed by sutures. The entire length of the uterus was five inches and a half, and the cervix was entirely invaded by the neoplasm. The left ovary and Fallopian tube were removed, also half the right Fallopian tube. Enucleation, without opening the peritoneum, had been intended, but had not succeeded. Considerable peritonitis followed, but little hæmorrhage. A recto-vaginal fistula resulted, which was operated upon four weeks later. Four months afterwards a small recurrent nodule, which had arisen near the site of the fistula, was excised. There was no further recurrence.

Uterine excision by separation of the peritoneum was first proposed and successfully performed by Langenbeck. The woman survived the operation twenty-six years, but the uterus was not cancerous.

Dr. Gusserow,[7] one of the latest writers on uterine extirpation, has collected 253 cases (where the operation was performed by the vaginal method), with a mortality of 23·3 per cent., the list including operations from the time of Sauter (1822), Blundell (1828), and Récamier (1829).

Pfannestiel collects 154 operations up to 1882, with a mortality of 23 per cent.; but after 1882, thirty-six cases, with a mortality of only 8·3 per cent.

Gusserow advises the use of the curette and cautery as preliminary to making the vaginal and peritoneal incisions, so that when the uterus is retroflexed the chance of auto-

[1] Brit. Med. Jour., 1884, vol. ii., p. 1277.
[2] Braithwaite's Retrospect, vol. lxxxviii., p. 389 *et seq.*
[3] Ibid., p. 392.
[4] Diagnosis and Surgical Treatment of Abdominal Tumours, 1885.
[5] British Medical Journal, 1884, vol. i., p. 1262.
[6] THE LANCET, vol. i., 1877, p. 61.
[7] Deutsche Chirurgie, 1886, Lieferung 37.

infection from the cancerous cervix will not exist. He considers flexion of the organ to be recommended as tending to check hæmorrhage by torsion.

These various modifications of the operation have been detailed because a study of the differences of procedure which they present may serve to afford the basis of a definite plan of operating, which may probably afford greater successes than those which have been devised in the past, and to further this object I have recently practised uterine extirpation upon the dead body, which enables me to submit the following points for consideration:—

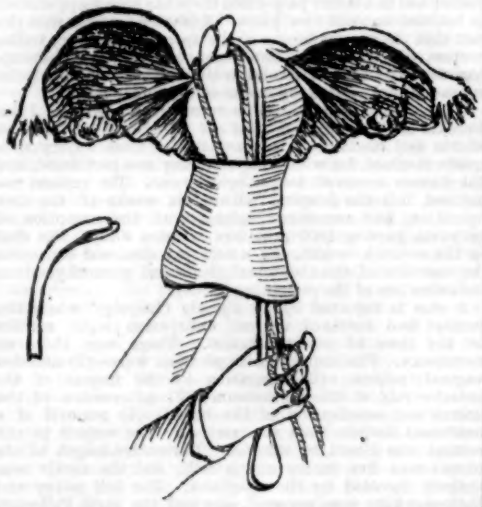
1. There may be two semilunar vaginal incisions or one circular one. If the circular incision be chosen, the divided vaginal arteries can be readily secured by hæmostatic forceps. Before the incision is made the cervix should be well drawn down, thoroughly exposed, and the finger passed along the line of the proposed section, which should be principally made with blunt-pointed scissors, or a probe-pointed bistoury. The bladder should be supported with a staff throughout the operation.

2. The ureters are to be separated from the sides of the uterus with the fingers, and the peritoneum stripped upwards over the organ as high as possible, so that after its removal a funnel-shaped peritoneal flap will remain.

3. The uterine arteries should be secured prior to division.

4. The uterus should not be flexed, since such a course

FIG. 2.



involves greater difficulty in dealing with the broad ligaments, and might add to the risk of sepsis from the cancerous cervix.

5. The broad ligaments are to be secured as follows:—The peritoneal cavity having been freely opened in front of and behind the uterus, by tearing through the peritoneum with the finger-nails, the operator's left hand is to be introduced into Douglas's pouch, and the uterus pushed upwards towards the abdominal cavity in order to gain space. (Fig. 2). A loop of stout carbolised silk must be passed upwards in front of the uterus, by means of a staff shaped like a vesical sound, having a notch for the silk at the top of its beak. This loop can be caught by the tips of the left index and middle fingers at the summit of the uterus, and one end drawn downwards. By a similar manœuvre a second loop can be passed over the other broad ligament. (Fig. 3). Perforated shot are to be slipped upwards, each embracing a ligature, and clamped by pressure with a forceps such as that shown in the engraving, firm traction having been previously made upon the ligatures. The broad ligaments are secured close to the uterus.

6. Two courses are now open to the surgeon. By the first, a stout pair of Wells's pressure-forceps is applied to each broad ligament external to the silk ligatures, and the uterus then excised with scissors. In this case the silk ligatures will have served the purpose of temporarily compressing the broad ligaments and of depressing them into the jaws of the pressure-forceps. The forceps will be allowed to remain *in situ* for some hours in order to prevent hæmorrhage, and the operation completed as in the case of Mrs. R——. By the second course, double ligatures must be applied to the alæ vespertilionis, and these structures divided on either side between the double ligatures. The operation will then be completed by closing the peritoneal cavity, after the manner ordinarily adopted in abdominal operations.

It has been argued that the Fallopian tubes are part of the uterus, and therefore, unless they be removed also, excision of the uterus only, for cancer, is an imperfect procedure. Without discussing this debatable point, I will content myself by stating that after the excision of the uterus in the manner indicated, the operator can, if he please, draw down consecutively each appendage, apply a ligature, and remove it. But in so doing, care must be exercised to avoid including the ureters in the ligatures. Virginity naturally increases the difficulty of vaginal hysterectomy. In one of the operations I performed upon the dead body, the subject was a virgin, and it became necessary to incise the hymen in the median line with scissors. It was not necessary to divide the perineum, and the vagina was readily distended to a size large enough to admit the introduction of the entire hand. Deformity of the pelvis would seriously complicate the operation, and this or other

FIG. 3.

conditions which occasion diminution of the genital passage would guide the operator to choose the abdominal in preference to the vaginal operation, where hysterectomy is advisable.

The term "cancer" is employed in this communication in its most general sense—viz., as signifying a "malignant growth," and not merely as synonymous with "carcinoma." In support of my advocacy of early extirpation of the uterus for cancer—which, if performed after the manner laid down, with the greatest attention to Listerian principles, is not a particularly dangerous operation—it becomes necessary to express some opinion as to the nature of cancer, with the reasons for electing extirpation as a rule in preference to the more usual methods of treatment. The common idea on the cancer question (which is quite wrong) runs thus: "A hereditary and constitutional disease, distinguished by the presence of a tumour, which, if excised, generally recurs and destroys life. Why therefore operate for cancer which can at best retard the disease only, and is a course associated sometimes with a little, but sometimes with grave, danger? Let us pin our faith to harmless remedies and patent nostrums!" Speaking generally, a cancer tumour arises from

the combination of predisposing and exciting causes. In this, as in some other diseases, the degree of the one class of factors is inversely proportionate to the other. Locality has been recently urged as a cause of cancer, and statistics have been collected which argue forcibly in favour of this opinion. But as to whether certain atmospheric or telluric conditions predispose to or excite cancer, or what such conditions be, though they presumably exist, is quite unknown. Heredity is undoubtedly a most powerful predisponent to cancer. The influence of heredity has been questioned because a family history of cancer has not been forthcoming in a certain proportion of hospital cases; but Sir James Paget has shewn that such a history is obtainable from private patients in twice as large a proportion. Add to this the circumstance that even among private patients a family history of cancer cannot always be traced and is very often intentionally suppressed, and the evidence in favour of heredity as a factor in the etiology of cancer becomes irrefragable. Mrs. R——'s case may be cited as a not uncommon instance of hereditary cancer, where the primary growth appeared in two sisters, probably in the same site. Mrs. R—— applied for treatment for cancer of the cervix uteri, with the history that a sister had died of "cancer of the bladder"—i.e., probably uterine cancer extending into the bladder. The *ipsissima verba* of a woman who I recollect consulted me last summer were: "Sir, two of my sisters have died of cancer of the womb, and now I have severe pain in the womb and an offensive discharge." In what respect syphilis influences cancer is questionable. That certain syphilitic lesions are frequently the precursors of cancer is admitted by all; but whether such lesions exert an influence which specifically initiates cancer or not is a matter of doubt. But this remains certain: many cancer-tumours arise from obviously exciting causes, which may be physiological, dependent upon the evolution or retrogression of the organs (e.g., the breast and uterus), or upon the natural decay of the tissues; or extraneous, such as smoker's lip cancer, or chimney-sweep's scrotal epithelioma (where the development of the growth is favoured by the scrotal corrugations which retain the soot). Fissures and ulcers, either simple or of specific origin, not uncommonly form the cradle and starting-point for epithelial growth.

Quite recently, the results of most valuable researches by Schuchardt have been published[1] in reference to his observations on the origin of cancer from chronic inflammations of the mucous membrane and skin:—1. He traces the steps between buccal and lingual psoriasis and cancer of the cheek and tongue. A case fell under the observation of Schuchardt where psoriasis of the tongue had existed for many years in a dormant condition, but ultimately assumed the character of epithelioma. The tongue having been removed, the transition from the psoriasis to the epithelioma was demonstrated microscopically. The transition steps of epithelium from a chronic inflammation to a malignant growth have thus been proved; but why epithelium, at one time homotopic, may eventually become heterotopic, is the great question in the pathology of cancer which still remains to be solved. 2. Schuchardt also draws attention to the development of cancer of the penis from "psoriasis preputialis," by which he means a condition of phimosis with chronic inflammation of the prepuce. In confirmation of this, I may refer to the well-known origin of epithelioma from venereal warts which have been allowed to vegetate beneath the foreskin. 3. Instances are also adduced of "seborrhagische Hautcarcinome," or cancer arising from chronic inflammation of sebaceous glands.

The mode of origin of epithelioma of the cervix uteri is a hotbed of debate. By some it is contended that fissures, simple ulcers, and erosions of the cervix uteri give rise to no symptoms, produce no inconvenience, and are harmless; by others, that these conditions are a constant source of misery, are a cause of various reflex phenomena, and may serve as a suitable nidus for the development of cancer. With neither view do I entirely agree, but incline to the latter. A small fissure or ulcer of the rectum, a sore spot on the mucosa of the tongue or larynx, unquestionably give rise to a varying degree of distress; how, therefore, an erosion or ulcer on the cervix uteri can never produce symptoms either *per se* or in association with its usual concomitant conditions is difficult to understand. The initiation of cancer by external irritants has been dwelt upon at some length; its frequent origin from leucoma of the tongue, or from fissures and abrasions of the mucosa of that organ, has been proved, together with the logical prevention of cancer by the removal of such small foci by treatment, before they have assumed a chronic condition and become developed into a chronic inflammation. We are therefore constrained to think that fissures and simple ulcers of the cervix uteri, when permitted to run their course unchecked, frequently become the precursors of uterine cancer. At all events, however easy it may be to draw a hard and fast line upon paper of the differential diagnosis of simple chronic infiltration of the cervix and of the infiltration due to malignant disease, or to give the differential diagnosis of simple and cancerous ulceration, yet clinically no more difficult puzzle is presented to the practitioner than to form a correct opinion in many instances which fall under his observation. Such, in outline, is the evidence which supports the view that a cancer-tumour is, whilst small, a purely local affection, and immunity from recurrence usually attends early and *free* excisions of these tumours.

Unfortunately for themselves, patients affected with cancer are not usually presented to operators whilst the primary tumours are in their earliest stages, and the bulk of cases operated upon are in consequence those where the disease has progressed already too far to render the hope of cure by surgical treatment probable.

In conclusion, I venture to say that I have brought forward sufficient reasons to support the hope that vaginal extirpation of the uterus for cancer is an operation which will save life when performed sufficiently early in the course of the disease. In Mrs. R——'s case, Mr. Prowse has reported that the neoplasm has unfortunately recurred in the vaginal cicatrix in the fourth month after extirpation of the uterus. But the disease was far advanced at the time of operation, as shown by Fig. 1 (p. 683). My present feeling is wholly opposed to extirpation of the uterus for cancer of the fundus, chiefly on account of the difficulty which attends the diagnosis and precise determination of the extent of the disease in such cases. The death-rate following such operations will be high, and the chance of immunity from recurrence small. In cases of early cancer of the cervix the limitation of the neoplasm can be ascertained with tolerable certainty; the removal of the upper portion of the vagina together with the uterus would not add much to the risk of the operation, and would notably diminish the probability of recurrence. These are the kind of cases for which vaginal hysterectomy should be afforded a fair trial, and the results ought to be as good, at least, as those of recognised operations for cancer in other parts of the body. Mr. Foreman, writing from Sydney, states that he has excised the uterus for cancer per vaginam five times successfully, so far as the immediate results were considered. From this experience he adds: "I am convinced that, if we only get the cases before the neighbouring parts are infiltrated, the ultimate results would be far better than the removal of cancerous breasts. If a case be too fixed for removal, I leave it alone. In future I shall always extirpate where it is possible to do so."

Park-street, Grosvenor-square, W.

[1] Volckmann's "Sammlung," No. 259.

SMALL-POX EPIDEMICS IN LONDON.

BY HENRY TOMKINS, M.D., B.Sc.,
MEDICAL OFFICER OF HEALTH, LEICESTER.

Now that London is comparatively free from small-pox and the fresh cases arising weekly can be counted on the fingers, and in view of the fact that the Metropolitan Asylums Board are about to take steps for the erection of another large hospital in preparation for what is apparently looked upon as inevitable—another epidemic of this disease,—the time appears opportune to bring forward all or any experience tending to throw light upon this matter. As the result of some years' experience of this subject, I would offer some observations relating thereto under the following two heads: first, the principles which should be followed in the providing of small-pox hospitals, both as regards the interests of the patients and those of the public; secondly, a more efficacious means of coping with the first outbreaks of the disease, in order to prevent its assuming such large proportions as have hitherto at regular intervals

been an opprobrium to the sanitary arrangements of the metropolis.

1. According to a leading article in THE LANCET of Feb. 20th, the Metropolitan Asylums Board have decided to build a new hospital at Gore Farm for 600 patients. At the late hospital at Darenth accommodation was provided for a much larger number than this. I would submit that the formation of such large establishments is a mistake, and for the following reasons. When the numbers begin to exceed 300, the difficulties of proper administration, supervision, and control are enormously increased, one important factor tending to this being that so large a proportion of the patients are convalescent and practically recovered, and are kept in hospital more as prisoners under restraint, waiting the time when they will be free from infection and fit to mix again with the community at large. Again, if this number be much exceeded, the area from which the cases are brought is much extended, and thus the patients have a further distance to be removed from their homes; and although experience has proved to me that cases of small-pox, if in a fit condition to be removed at all, will, in a proper ambulance, bear a journey of seven or eight miles without any apparent ill effects, still it is desirable on all grounds, financial and social, to limit the distance of removal, so far as this can be accomplished. Again, it has been shown that, on the score of economy, when a hospital exceeds 400 beds the total cost per bed begins to show a marked increase. The objection that has been raised as to the ill effects of too great aggregation on the patients themselves, in addition to that of the surrounding district, should also have some weight. The inmates in the acute stage may be estimated at 25 per cent., and it is these, if any, that suffer most from too close aggregation, and a total of 300 would limit these to some seventy or eighty, a number which it is desirable not much to exceed. It would therefore appear advisable on these grounds, if provision must be made for these large numbers, and this scourge is to be for ever at intervals widespread in London, to select, say, three or four sites—east, west, north, and south—situate beyond the thickly populated districts, where land is less costly, and where ten or twelve acres could be got at a distance not less than a quarter of a mile from any main thoroughfare or human dwelling-houses.

2. But a more important question, perhaps, than the provision of these large hospitals presents itself for consideration—viz., whether it is an inevitable necessity that these epidemics of small-pox are to periodically arise and hundreds of lives be lost thereby, in spite of the protection afforded by vaccination and our improved or supposed improved sanitary arrangements. Are all available means taken at the onset, and in each and every case, to prevent the spread of the infection? All who are acquainted with the details of these matters as in operation in London will agree in acknowledging that they are not. The population of London is fairly well vaccinated, and the greater number of those admitted into small-pox hospitals are found to have been vaccinated in infancy, so that the amount of protection afforded by one vaccination is pretty general; and yet what are the results? My attention has been forcibly directed to this point since undertaking the duties of medical officer of health to the borough of Leicester, so well known as the headquarters of the anti-vaccination movement, and where the vaccination laws are practically to a large extent in abeyance, as at the present time not much more than one-third of the children are vaccinated. This condition of things has now been going on for a few years, so that there must now be some thousands of children, forming a sensible proportion of the 140,000 inhabitants, which is about the present population of the town and district; and yet, with all this susceptible material and the frequent importation of small-pox into the town, and into the most densely populated parts of it, during the last eight or nine years the disease has never got a hold or spread amongst the people. To what is this due? There can be little doubt that it is due to the active vigilance of the health authorities. Compulsory notification of infectious diseases is in force, and it is not too much to say that within a few minutes from the receipt of information of a case the authorities are on its track, and the patient, *nolens volens*, is promptly removed to hospital. But, further, not only is the patient removed, but every effort, and indeed pressure of a most pronounced character, is brought to bear to effect the removal to quarantine wards of all those persons who have been in attendance on or in contact with the patient, there to undergo a fortnight's isolation and observation. In those instances where the friends &c. have not yielded to this pressure and could not be got into quarantine, a daily visit of observation has been made, so that the earliest symptom of any sickness amongst these should be known. By thus promptly removing every case, thoroughly disinfecting the infected premises, maintaining a strict watch on those exposed to infection, and preventing them from mixing with others at school or work, the disease has hitherto been kept from spreading.

I bring this forward as illustrating what vigilant action on the part of those concerned with the care of the public health has been able to accomplish, and that too amongst a crowded population a large number of which is unprotected, and not in any way to advocate the non-performance of vaccination, my views and experience of the latter being shown elsewhere.[1] In fact, one cannot with any degree of equanimity look forward to the future of this community; with a yearly increase in the unprotected portion of the population, it is to be feared that ultimately a Nemesis will overtake the town in the shape of a violent outbreak of variola. As a speaker at the Sanitary Congress held here in September last well said, Leicester may be likened to a town where the brick-built houses are gradually being replaced by wooden ones: for a time a fire occurring may by prompt action be extinguished without causing much damage; but by and by, when all the houses are of inflammable material, a fire will at last occur which will baffle all efforts to extinguish it.

What I wish to insist upon, however, is this: If such results can be obtained in a population of 140,000, why cannot the same be effected in a population of four millions? If these four millions are divided into twenty districts, each with a competent and sufficient staff, and its organisation properly adapted for the purpose to be accomplished, what is there to prevent similar results being obtained in each of these districts as here? To be of any use, action must be prompt, vigorous, and effective; half-hearted measures are useless in coping with this disease; it does not do to stand too much upon ceremony, and possibly at times the actual limit of legal powers may be exceeded if delay is to be avoided: violent diseases often require violent remedies. It is a truism to point out that the essentials for carrying out the above line of action are, first and foremost, the immediate notification of the occurrence of each case; secondly, an efficient staff to act on such information; thirdly, prompt action in removal, disinfection, revaccination, and watching all those who may possibly have been exposed to the infection.

Leicester.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. GEORGE'S HOSPITAL.

VOLVULUS OF ASCENDING COLON; DEATH; NECROPSY.

(Under the care of Dr. J. OWEN.)

THE cause of the obstruction in the following case is of considerable rarity, and for that reason the case is well worthy of record. Three varieties of incarceration, the consequence of rotatory movement, may take place,[2] and of these this case affords an example of the first—a simple twist of the bowel on its own axis. In previously recorded cases this simple twist has almost invariably been found in the ascending colon, and this case is no exception to the rule. For the following notes we are indebted to Drs. Delépine and Griffiths.

W. W——, aged twenty-nine, was admitted on August 17th, 1885. He was a slightly built man, who had had no illness

[1] The Protection afforded by Vaccination. Manchester: Cornish.
[2] Holmes's System of Surgery, vol. ii., p. 712.

except acute rheumatism in 1870. He had been in good health, with no loss of appetite, no abdominal pain, and perfect regularity of the bowels up to August 15th, when he was seized with sudden pain across the lower part of the abdomen, with constant vomiting, and that day there was no action of the bowels. Next day the vomiting was less constant, but the bowels remained constipated, and there were pains of a cramping character in the abdomen. There was no history of blow or strain or sudden movement, and no excess or error of diet.

When admitted on the 17th, his skin was cold; temperature 96·4°; pulse small and weak, 82; tongue clean. He vomited occasionally a dark yellow acid fluid, small in amount. His pupils were normal, but there was much restlessness and tremor of the hand. A short systolic murmur was audible over the apical area of the heart. Pulmonary sounds clear. Abdomen tense; umbilicus retracted; dulness (comparative) over right ileo-inguinal region and right flank; hyper-resonance above the umbilicus and over the left side. His pains were referred to the lower half of the abdomen, from one side to the other; palpation gave pain; no coils of intestine mapped out on the abdomen; reflexes over abdomen exaggerated; no vermicular action visible. Three full enemata failed to bring down more than a few scybala. He was given four ounces of brandy, and half a grain of extract of belladonna every two hours. He continued, however, to vomit, almost always ten minutes after drinking. He spoke cheerily of himself, was not collapsed, and about five hours after admission was heard to laugh at some incident; but within an hour and a quarter after that he was seized with muscular convulsions, became cyanosed, and died before aid could be summoned.

Necropsy, twenty-one hours after death.—There were a few adhesions of the pleura, and extensive old pericardial adhesions, with thickening of the mitral valve and slight thickening of the aortic valves, producing incompetency. The thoracic and abdominal organs were apparently healthy. The abdomen was distended, and there were a few ounces of dirty-looking turbid serum in the peritoneal cavity. On reflecting the omentum, the small intestine was found pushed upwards and to the right by a large blackish pouch. On following the small intestine from above, the distended pouch proved to be the distended and displaced cæcum, the ascending colon being twisted a short distance above the ileo-cæcal valve, the distended cæcum extending from the right iliac fossa to the left hypochondrium, forming a large elongated ovoid mass twelve inches in length by six inches wide, its peritoneal coat being torn in several places. The colour of the distended viscus varied from a purple-brown to an almost black colour. The stomach, and the whole of the small intestine contained a large amount of highly offensive flatus and fluid fæcal material. The lower two thirds of the ileum were much discoloured. Beyond the point of obstruction the colon was contracted and quite pale. The appendix vermiformis was still in the right iliac fossa, with the adjacent parts of the cæcum, both joined to the parietes by a mesentery which was much stretched, but otherwise presented no striking abnormality. The volvulus affected the lower part of the ascending colon, which was twisted, so that the anterior surface looked posteriorly—the parts of the right side looking upwards and to the right, the parts of the left side looking downwards and to the left. These relations apply only to the parts in the immediate vicinity of the volvulus. Thus the parts entering into the composition of the distended pouch were derived from the antero-external region of the cæcum and ascending colon and the postero-external wall of the caput cæcum. Before untwisting the volvulus water was passed through the descending colon, but could not be made to pass through the stricture, though on replacing the cæcum in its normal position both water and the contained gases passed freely. The cæcum and the ascending colon being laid open, the mucous membrane of the former was found to be discoloured, softened, and evidently partially destroyed at several points. At the point of obstruction, which was marked by a sudden transition from the dark colour of the distended intestine to the pale colour of the contracted ascending colon, there was a narrow line of deep arterial congestion, but with no great amount of swelling of the mucous membrane. There was no indication of previous constriction at that point, and on removing the constriction by untwisting the intestine the entire obstruction vanished.

The case was therefore one of volvulus of the ascending colon, and presented the peculiarity that no congenital malformation, general in such cases, could be found. The meso-cæcum was not even long enough to allow of any extensive displacement of the appendix vermiformis. It is evident, from the relations of the parts and from the position of the volvulus, that without a saccular distension of the antero-external part of the cæcum no volvulus could have existed, or at any rate have been persistent. It should be noted that there was a *secondary* twist due to displacement of the distended cæcum, which altered the position of parts; but, on untwisting it, the occlusion remained perfect as before.

RADCLIFFE INFIRMARY, OXFORD.

A CASE OF EXCISION OF THE THYROID GLAND; REMARKS.

(Under the care of Mr. HORATIO SYMONDS.)

WE are indebted for the following notes to Mr. George Rodman, M.B.

Rose C——, aged twenty, a housemaid, was admitted during the summer of 1885 suffering from an enlargement of the thyroid gland, which, in addition to being inconvenient on account of its size, gave her trouble in swallowing, and also produced some amount of dyspnœa.

When first seen, the patient, who was a healthy, robust girl, presented the usual signs of a thyroidal growth, involving both lobes, but more especially the right. There was no expansile pulsation of the tumour, nor other evidence of its being a case of Graves' disease. The difficulty of swallowing was not such as would interfere with nutrition, but the dyspnœa produced by exertion prevented the following of her occupation with any degree of comfort. There was no cardiac disease. Several attempts, four in number, were from time to time made, to promote a diminution in size of the mass; the process adopted being that of incising the growth, and then, by the application of the actual cautery to the incisions, promoting the formation of a scar, which, when it contracted, might diminish the blood-supply to the tumour. The girl left the hospital, and returned a month or so later with but little amelioration of her condition. She was then desirous of having a further operation performed.

On Oct. 27th, the A.C.E. mixture having been administered, Mr. Symonds proceeded, with Listerian precautions, to extirpate the growth, and to accomplish this made his incision over the most prominent portion on the right side, in the direction of the carotid vessels. The previous cauterisations had produced adherence of the skin to the subcutaneous structures and made the "shelling out" of the gland more difficult than it is usually found to be. Considerable hæmorrhage was encountered, which, however, was easily restrained by means of Spencer Wells' artery forceps and the application of catgut ligatures to the bleeding vessels. The actual cautery was used at one stage of the operation to check some venous oozing. A thick catgut ligature was passed round the junction of the isthmus and right lobe previous to the removal of the latter. At this stage of the operation it was decided, owing to the pulse giving evidence of collapse, to postpone the removal of the remaining lobe for a time. The skin wound was closed with silk sutures, a drainage-tube being inserted in the lower extremity of the incision. The portion removed was found to weigh twelve ounces, and a stained microscopical section showed it to consist of a simple hypertrophy of the gland, without any alteration in the relative amounts of gland and fibrous tisue.

The patient remained somewhat collapsed for twenty-four hours, but after this period gave no ground for alarm. It was only necessary to dress the wound a few times, and she made so rapid a recovery as to be able to take exercise in the grounds of the hospital three weeks after the operation.

On Nov. 20th Mr. Symonds removed the remaining lobe in a manner similar to that adopted on the previous occasion. The same difficulty, owing to adhesions, was found, and the extension of the growth behind the trachea rendered it necessary to employ great care in avoiding a wound of that tube. A portion of the isthmus was left over the front of windpipe, the left lobe having been separated from this by means of the cautery iron. No considerable hæmorrhage was met with, and there was a marked absence of collapse, as seen on the occasion of the removal of the right lobe. The weight of the left lobe was six ounces.

The subsequent history of the case is a somewhat interesting one, in that it caused some alarm to those attending her.

Shortly after the termination of the operation it was noticed that she was breathing stertorously, even though thoroughly roused from the anæsthetic. This stridor remained during almost the entire time she was in the hospital, and was especially audible when she was disturbed in any way—e.g., sitting up at the time of the dressings. Three days after the operation her temperature reached 102·4°, and with that she had a troublesome cough, with frothy expectoration and rapid stridulous breathing. The wound was healing well. Her temperature on Dec. 1st had reached its normal standard, but her voice was weak, and she suffered from peculiar paroxysms of an almost noiseless cough. The stridor was still present at intervals. She was up for the first time on Dec. 7th. On account of her continued weakness of voice, a laryngoscopic examination was made, but this was very unsatisfactory owing to her tonsils being large and preventing the insertion of the mirror between them. She continued in the same state till Dec. 26th, when her temperature suddenly rose, and continued high (between 103° and 104°) for several days. There were no other indications of fever. Subsequent investigations showed that she had in all probability caused the thermometer to rise either by its application to a hot bottle or by means of friction. Having been detected in this fraud, she left Oxford within a few days, during which interval her voice returned and she had no stridulous breathing. On Feb. 3rd, 1886, she presented herself at the hospital in good health, and was shown at the meeting of the British Medical Association there.

Remarks by Mr. SYMONDS.—Cases of bronchial and laryngeal spasm, due to irritation of a goitre, ending fatally, will justify the operation of removal of the thyroid gland in many instances of a simple enlargement of that body. It would be well, considering the attendant risk of the operation, which has probably been somewhat over-estimated, to try less active measures in the cystic variety of the disease. The same remark applies to the exophthalmic form when hæmorrhage might prove fatal. A previous cauterisation of the growth would seem to be contra-indicated, as being of not much use, and because of the complication that it leads to should an attempt at excision be made subsequently. The above case did not illustrate the usual comparative immunity from spasm during the day-time, a fact which was forcibly illustrated by the sudden death of a similar case, which happened to be in the ward at the same time, and which occurred from bronchial spasm in the middle of the night, the patient having shown some dyspnœa for several previous nights, though quite free during the earlier portion of the day. The line of incision was adopted as being less likely to injure the important structures met with in this region. Removal of the isthmus was avoided, with the idea that with that portion of the tumour remaining there would be less chance of the patient developing a myxœdematous condition. It remains to be seen whether such will be the case. I have known four other cases besides the one mentioned as dying of bronchial spasm in the ward, in which patients have died suddenly from asphyxia due to gradual compression of the trachea.

LIVERPOOL INFIRMARY FOR CHILDREN.

CARIES OF LAST DORSAL AND FIRST LUMBAR VERTEBRÆ, WITH PARTIAL PARAPLEGIA AND CONTRACTURE OF MUSCLES OF THIGHS, IN A GIRL AGED THIRTEEN; CURED, WITHOUT DEFORMITY, BY A SAYRE'S JACKET WORN CONTINUOUSLY FOR TEN MONTHS.

(Under the care of Mr. MARTIN OXLEY.)

ALICE P——, aged thirteen, was admitted on Feb. 2nd, 1885. It was stated that up to eight weeks previously to her admission she had been in good health. She first complained of pain in the small of her back and in her legs, and suffered most at night. She gradually became very thin, lost her power of walking, and her thighs were drawn up upon her abdomen.

On admission she was much emaciated, looked haggard and worn, and could not be moved without exciting spasmodic movements of the flexors of the legs, which were accompanied by great pain. She was kept in bed for two days, and then had a jacket of plaster applied while in the slings, after Sayre's plan. From the time she had the jacket on her pain ceased, and the tendon reflexes, which had been greatly exaggerated in the thighs, became almost normal. After eight days she could walk about in the ward, but soon got tired. She was sent home, and was not seen until December, 1885. She was then stout and well, and could run up and down the ward without the support of a jacket. Her mother stated that she had gradually got stronger and fatter, and was as well as she had ever been. Another jacket was put on, as the child wished to have further treatment, and as Mr. Oxley always continues the jacket for at least two years after the cure to ensure its permanency.

The girl was again seen last month (April). She is strong and well; can touch her toes with her fingers without bending the knees, except to a very slight degree. She has no pain in the back, nor does she show any deformity. Mr. Oxley has shown her to the members of the Medical Institution, and considers that her case is one of the most remarkable and interesting of the large number which he has treated.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Development of Mammary Functions by the Skin of Lying-in Women.—Paraplegia from Pott's Disease, and its Treatment by Actual Cautery.

AN ordinary meeting of this Society was held on Tuesday last, Mr. G. D. Pollock, F.R.C.S., Vice-President, in the chair.

Dr. F. H. CHAMPNEYS contributed a paper on the Development of Mammary Functions by the Skin of Lying-in Women. After referring to numerical abnormalities of the breasts and nipples, the author proceeded to give thirty cases of the condition described in the title of this paper, occurring between October, 1882, and November, 1884, in the General Lying-in Hospital. The right side was affected in 14, the left in 1, both in 15. The lumps in the right side predominated both in frequency and size. The author then described the situation and characters of the bodies referred to, and their course of development; during lying-in this usually coincides generally with that of the breasts. The secretion was of three principal kinds: (*a*) Granular débris, like the secretion of sebaceous follicles; (*b*) colostrum; (*c*) milk. It was expressed from the situation of the sebaceous follicles, as marked by the situation of the hairs. The whole surface of the lump produced secretion; there was no centralisation. The cases were seen by numerous observers. Three typical cases were given at length, and instances of the following conditions were then described by way of contrast: Extension of mammæ into axillary folds; axillary mammæ with axillary nipples, pores, or ducts; supernumerary nipples without special gland substance (including one case having a typical "axillary lump" in the skin of the right axilla, and also three small "axillary lumps" on the right side, and three rudimentary nipples, two on the right side and one on the left). The cases of "axillary lumps" were believed to be now described for the first time. They seem to prove that in lying-in women the sebaceous follicles of the skin are capable of producing true mammary secretions. The transition from granular material, through colostrum, to true milk, is distinct and unmistakable. They confirm the opinion that the breast is a highly specialised aggregation of highly specialised sebaceous follicles. The least specialised form is that here described, where the skin is merely thickened, and the sebaceous glands may produce true mammary secretions. The next form is that where there is an aggregation of the ducts, which open by one or more external pores. The highest rudimentary form is where a nipple or more are superadded to the last variety. It is also well known that nipples may be developed independently. It is far from improbable that these "axillary lumps" may share the pathological affections of the breast, and even be the seat of abscess. Reference was made to some affections described by Verneuil as "hidrosadénite," and believed by him to be situated in the sweat-glands. A case of "axillary lump," painful during menstruation, was given. The paper concluded with a table of thirty cases of "axillary lumps," giving the side affected, dimensions, when first noticed, largest on which day, state when last seen, secretion, and remarks.—

Mr. G. D. POLLOCK believed that this was the first paper that had been contributed on the subject.—Mr. ALBAN DORAN said that Dr. Champneys' valuable researches supported the embryological as compared with the morphological view of the mode of origin of supernumerary nipples and glands. If these structures were really relics of organs in our ancestors, then they ought not to be found in the axilla, for in no animals did these glands occur in that situation. That Dr. Champneys' lumps were a specialised form of cutaneous sebaceous glands was highly probable.—Dr. CREIGHTON regarded Dr. Champneys' researches as having been productive of a considerable discovery. He believed, however, that the lumps or glands were not derived from sebaceous glands, but from another cutaneous structure that existed in the human axilla. He had incidentally described this glandular stratum in a paper read before the Society four or five years ago. Similar structures were met with in the skin of the dog. In the human axilla they had been described by Sappey, Kölliker, and Frey. These glands were coated by a remarkable layer of plain muscular fibres. They were composed of peculiar yellow granular cells, were of a larger size, and had a shorter neck than the ordinary convoluted sweat glands. In the Australian platypus Meckel had described them as glandula humoralis lymphatica. The remarkable muscular coating would enable a diagnosis to be made between them and sebaceous glands. This would afford a distinction when an opportunity arrived for an anatomical examination of a case of Dr. Champneys' lumps.—Dr. JOHN WILLIAMS said that during menstruation pain and fulness occurred frequently in the breast. It would be interesting to know, therefore, whether the axillary lumps of Dr. Champneys ever exhibited signs of their existence during menstruation. In one case which Dr. Williams had had the opportunity of watching, some swelling and pain in the axilla corresponding to the position of these lumps were detected.—Dr. BENNETT related a case of swelling in the axilla which was associated at the menstrual periods with sweating; the tumour was removed and found to be an oval flattened lipoma.—Dr. CHAMPNEYS, in reply, regretted that he was unable to show a living specimen. He did not doubt the existence of—indeed he had described—extensions of the mammary gland into the axilla. But the axillary lumps were of a very different nature, as he had shown in the paper. He was inclined to accept Dr. Creighton's view of their origin. These lumps were not perceptible before delivery, swelled after parturition, and again slowly decreased in size; in these features, and in yielding a secretion of milk, they differed altogeher from lipomata.

Dr. ALTHAUS communicated a paper on Paraplegia from Pott's Disease, and its Treatment by the Actual Cautery. The author related the case of a domestic servant, aged twenty, who had had rheumatic fever two years before admission to hospital, and painful paraplegia for about twelve months. The right lower extremity was more severely affected than the left. There was exaggeration of the superficial and deep reflexes and of the galvanic and faradaic responses of the nerves and muscles, and there were certain vaso-motor symptoms, while all forms of sensibility were perfectly normal. There was an angular deformity of the ninth and tenth dorsal vertebræ, the structures above the projecting vertebræ being thickened and indurated, with deficient flexibility of the spine. All the other organs and functions of the body appeared to be normal. The case was therefore diagnosed as one of caries, probably non-tubercular, of the bodies of the vertebræ, followed by external pachymeningitis and some degree of interstitial transverse myelitis. Medicinal treatment having proved ineffectual, the actual cautery was applied by Mr. Pearce Gould on both sides of the deformity, on four separate occasions, with the result that the patient, who had been unable to walk, sit, or stand, recovered, and was discharged cured seven months after admission. The author then discussed the mode of production of the pain, and of the motor, vaso-motor, and secretory paralysis, as observed in cases of Pott's disease, and distinguished three different degrees of pressure and of corresponding severity of nerve symptoms:—1. That in which only the spinal liquid was displaced, while the membranes and the substance of the cord were not interfered with to any perceptible degree; this explained the cases in which there was considerable deformity, but no pain or paralysis in the limbs. 2. That in which there was not only displacement of spinal liquid, but also a moderate degree of external pachymeningitis and interstitial myelitis of the white columns of the cord, caused by the contact with the diseased vertebræ, and accompanied with pain and paralysis of limbs, but without loss of sensibility or reflex mobility. Motion suffered more readily from pressure than sensation, because sensation was more easily conveyed along the nerve tubes, and would persist as long as only a portion of the nerve cells in the grey centre of the cord remained active, and after the posterior columns had been disabled. The case described belonged to this class. 3. That in which there was severe squeezing and consequent inflammation of the entire substance of the cord. In such cases we observed clinically all the symptoms of complete transverse myelitis *in loco morbi*. The author recommended an early resort to the use of the actual cautery in all cases of Pott's disease where symptoms of paraplegia are beginning to be developed. Under the influence of powerful counter-irritation the inflammation in the bones and the dura mater ceased, there was absorption of morbid products, and the compression and inflammation of the cord were relieved. Although there was probably always some degree of myelitis in addition to the pachymeningitis, the recovery of function could be explained by assuming that a considerable number of nerve tubes had not perished, and that when compression was removed these were enabled to resume their normal activity. When the third stage of the disease had once been reached recovery was plainly impossible; loss of sensibility was therefore a much more ominous symptom in cases of Pott's disease than paralysis.—Mr. G. D. POLLOCK had found the actual cautery of much value in a variety of cases of injury and chronic inflammation of bones and about joints. He related a case in illustration. The skin was percussed by a button heated to whiteness.—Dr. B. O'CONNOR remarked on the completeness of the recovery in the case recorded. Did Dr. Althaus consider that there was more advantage in the use of the actual cautery as compared with setons?—Mr. FITZROY BENHAM had seen several cases where rest had sufficed to cure the disease. If the paralysis did not improve in these circumstances, the disease was advancing. He agreed that where sensation was affected the disease was more advanced.—Dr. ALTHAUS replied that two large strokes were made by the sides of the spines. Formerly the cautery was used for disease of the spinal cord itself, and without any good effects, and had therefore fallen into disuse. The cautery certainly shortened the course of the disease in his case. He preferred it to the seton, as it was more speedy and less painful.

PATHOLOGICAL SOCIETY OF LONDON.

Congenital Fatty Tumours of Sole of Foot and Palm of Hand.—Abnormality of Colon.—Meningeal Hæmorrhage due to Aneurysm.—Pathology of Rheumatoid Arthritis.—Hydatid Tumour of Recto-vesical Pouch.—Colloid Cancer of Uterine Fibro-myoma.—Thrombi in Pulmonary Artery.

AN ordinary meeting of this Society was held on Tuesday last, Dr. J. S. Bristowe, F.R.S., President, in the chair.

Mr. C. B. LOCKWOOD exhibited Congenital Lipomata of the Soles of the Feet from an infant aged thirteen months. They were symmetrical and had existed since birth. They were without a capsule, and the lobules of which they were composed were whiter and not so large as the ordinary fat of the part. Such tumours were exceedingly rare; the only others with which he was acquainted were described in the fourteenth volume of the Pathological Transactions by Mr. Gay. They had the ordinary structure of lipoma microscopically, and no special malignant tendencies, as Mr. D'Arcy Power testified. He also showed a Lipoma of the Palm of the Hand from a young lady aged twenty-four; it was removed by Mr. W. Adams; was probably congenital, though first noticed at three years of age.—Mr. ROGER WILLIAMS had seen five specimens of congenital fatty tumours, and one of these occurred in the palm of the hand; in none of his cases were the bones involved.—Mr. R. W. PARKER remarked that congenital lipomata were not encapsuled as a rule; they usually occurred in places where fat was not generally or but scantily found, as in the scrotum.—Mr. J. H. MORGAN described a case of tumour of the palm of the hand, merely a hypertrophy of the normal tissue of the part. He referred to a case of fatty

tumour removed by Mr. T. Smith from the pelvis of a girl, growing from bone.

Mr. LOCKWOOD also showed a specimen of Undescended Colon from an anencephalic monster. The colon was adherent to the right lobe of the liver, and the mesentery had failed to descend into the right iliac fossa. This descent of the colon did not take place till about the end of the tenth week; perhaps the occurrence of a peritonitis causing adhesion to the liver accounted for the non-descent of the colon. In his specimen the testicle had descended normally. With undescended colon the testicle also usually remained in the abdomen, as Geoffroy St. Hilaire and others had pointed out. Normally, there were bands passing between the testicle and colon, and it was supposed that the descent of the testicle was the efficient cause of the descent of the colon. The present case did not militate against this view, notwithstanding the facts.—Dr. NORMAN MOORE suggested that some peritoneal bands might be of non-inflammatory origin; could the natural bands referred to be the source of some of the peritoneal bands?—Dr. S. WILKS said that he had examined many stillborn syphilitic children, and peritonitis was not uncommon; it might occur in other conditions. Dr. Peacock had observed that some forms of congenital heart disease were of inflammatory intra-uterine origin. In a case in which Mr. C. Symonds had operated the cæcum was twisted on itself and thrown over to the other side, where it was fixed by adhesions, no doubt the result of peritonitis.—Mr. LOCKWOOD, in reply, referred to the meso-testis that sprang from the outer edge of the psoas muscle. He believed that many abnormalities were simply effects of actual intra-uterine disease, preventing normal evolution.

Dr. SEYMOUR SHARKEY read a case of Meningeal Hæmorrhage due to rupture of an aneurysm of the left middle cerebral artery. The patient, a married woman, aged fifty-one, was admitted under his care into St. Thomas's Hospital on Sept. 12th. Six months previously she had an attack of gout in the feet and attended as an out-patient. On Sept. 10th, whilst at work, she felt suddenly ill and vomited. She laid down on the bed for a short time and then tried to get up, but fell in her attempt to do so. She was then found to have lost the use of her right arm and leg, and she became unconscious and remained so until admitted two days later. She had right hemiplegia and hemianæsthesia and aphasia. She was drowsy, had a brown dry tongue and partial loss of control over the evacuations, and died on Sept. 17th, one week from the day on which she was taken ill. At the necropsy chronic renal disease and hypertrophy of the left ventricle of the heart were found. Slight extravasation of blood was seen in the membranes covering the anterior half of the left hemisphere of the brain and at the base; and a large hæmorrhage occupied and distended the left Sylvian fissure. It had formed a hollow cavity in the temporo-sphenoidal lobe, and had exerted great pressure on the other parts of the brain which form the boundaries of the fissure. It had separated the convolutions of the operculum from those of the island of Reil, and had flattened the lenticular nucleus and internal capsule, so much so that the knee of the latter was obliterated and its posterior and anterior divisions formed almost a straight line. The blood had not, however, ruptured the substance of the brain. The source of the hæmorrhage was a small aneurysm on the main trunk of the Sylvian artery. This case was an interesting example of the effects of pressure in interrupting the functions of the nervous system. The loss of sensation might perhaps be ascribed to the disorganisation of the hippocampal convolution, but the motor paralysis and aphasia seem to have no other explanation than the pressure of the effused blood upon the island of Reil and neighbouring convolutions and upon the central ganglia and internal capsule. It would have been impossible to distinguish the case clinically from one of hæmorrhage into the substance of the brain in the region of the internal capsule. In reply to Dr. S. Wilks, Dr. Sharkey said it was impossible to ascertain the condition of the special senses, owing to the patient's mental condition with aphasia.

Mr. ARBUTHNOT LANE referred to a paper in the Transactions of the Pathological Society, 1884, in which he had attempted to prove that Charcot's disease was rheumatoid arthritis altered by modifications in the vitality of the osseous and nervous systems. He now went a great deal further, and stated that in his belief rheumatoid arthritis was not a disease, and that the pathological conditions which we are accustomed to regard as the expression of this disease are but the result of force frequently or suddenly applied, as by a heavy blow. In previous papers, which were contained in the Transactions of the Medico-Chirurgical Society, Pathological Society, and elsewhere, he had shown that the transmission of pressure produced many important changes in the bones and joints. In the less movable articulations, as in those of the spinal column and pelvis, it caused the destruction of the articular cartilages or fibro-cartilages intervening between the bones and the formation of marginal osteophytic growth, so as to form large bosses or processes of bone, which frequently fused with similar processes from adjacent bones and so obliterated the joints. It also caused the development along the lines of tension of processes of bone, which extended along the ligaments or over the fibro-cartilages, and frequently united with similar projections from the neighbouring bones. He described instances of these conditions, all of which were regarded as products of the so-called disease, rheumatoid arthritis. In more movable joints, as in those of the extremities, pressure, exerted repeatedly and over a long period, produced changes identical in character with those just described, but altered in appearance by the greater mobility of these joints: these are the gradual removal of the articular cartilage covering the opposing surfaces of bone, an increase in the thickness of the articular lamella of bone, and its progressive eburnation on the complete removal of the cartilage. Coincident with these changes, bone is deposited on the margins of the articular surfaces, producing an extension of their area. The opposing eburnated surfaces of bone by their friction mutually destroy each other, and by this means a very considerable alteration in the shape of the articular ends is produced. To obviate, or rather to oppose, any displacement of the altered bones, a compensatory osseous growth is formed along the margin of the articular surface and frequently in the ligaments, and should the mutual trituration of the bones result in displacement, accompanying the gradual displacement, there is an abundant formation of new bone. The amount and rapidity of these changes vary much in different individuals, and depend on the vitality of the osseous system. If a movable joint be struck a violent blow, the changes produced are similar to those just described, but they progress with much greater rapidity. Instances of this last condition in the case of the hip-joint are sometimes described as rheumatoid arthritis due to injury, and in others as interstitial change in the neck of the femur, producing shortening. These changes are one and all described as rheumatoid arthritis, rheumatic gout, or arthritis deformans, and he maintained they are due, as he described them, to injury. The reason that so-called rheumatoid arthritis is so common in man as compared with the lower animals is that he so often bears burdens whose weights are transmitted at what is a great mechanical disadvantage, and his joints, as the hip and shoulder and the first metatarso-phalangeal, are much more exposed to injury than they are in the lower animals. In animals who carry or drag heavy burdens, as horses, pressure changes are frequently seen. This is less frequently the case with animals portions of whose bodies are exposed to violent strain in the pursuit of their prey, as serpents &c. Having, as he supposed, proved his point as to the identity of so-called rheumatoid arthritis with a condition which certainly cannot be regarded as other than physiological, he classified the results of the transmission of force under three headings, the first two of which he had already described:—1. The effect of pressure repeated very frequently and over a long period of the lifetime of an individual. 2. The influence of heavy pressure applied at one time, as by a heavy blow. 3. The effect of pressure exerted over many generations upon a part. This last effect of the transmission of pressure, which does not produce conditions whose character is far removed from rheumatoid arthritis, he believed to be a most important factor in the process of evolution, and he exemplified this by comparing the changes in the pelvis and lumbar spine of the coal-heaver with the similar parts of the mylodon, and with the fusion of the last lumbar vertebra with the first sacral, which is occasionally seen in man and not uncommonly in the higher apes. He then compared the condition of backward displacement of the fifth lumbar vertebra, which he has described, with a condition of dissociation of the first sacral vertebra in man, which he had found very frequently, and showed that these conditions were due to the similar transmission of superjacent force.—

Dr. NORMAN MOORE could not accept the view of the traumatic origin of joint changes in rheumatoid arthritis. In individuals suffering from emphysema or arterial disease the joints frequently showed degeneration of their cartilage, which changes were regarded as also related to age. In many members of the animal kingdom ankylosis of the joints occurred. Mr. Lane had quoted the case of the mylodon robustus, but the guillemot also exhibited similar changes that could not be attributed to strain or pressure. In his experience the sterno-clavicular joint was the least liable to present alterations of the kind in question.—Mr. LOCKWOOD criticised some of Mr. Lane's views. The feeble nutrition of afferent nerves was difficult to establish, and he asked whether the author still adhered to his opinion of the cause of fracture and ossification of the costal cartilages.—Mr. C. SYMONDS could not accept the author's hypothesis; he did not regard the changes spoken of by Dr. Moore as of a degenerative kind, for proliferation was their chief and earliest feature. He could not believe that rheumatic arthritis was simply due to chronic strain on the joints.—Mr. W. ADAMS dissented from the author's views, and agreed with those of Dr. Norman Moore; some constitutional cause was surely at work in the production of osteo-arthritis.—Dr. E. CLARKE alluded to the view put forward by Dr. Garrod, that the big toe being exposed to injury was the reason of its being the chief seat of local gout.—Dr. J. S. BRISTOWE also agreed with Dr. Moore that rheumatic arthritis was not the result of pressure. Bedridden patients sometimes developed the disease. He observed that Mr. Lane did not regard osteo-arthritis as a disease; if it were not, what was it?—Mr. A. LANE was fully aware of the facts and hypotheses that had been advanced; he would leave to the future the acceptance of his views which had in no measure been shaken by the observations made in the discussion.

Mr. ROGER WILLIAMS showed a specimen of Colloid Degeneration occurring in a Uterine Fibro-myoma, taken from a single woman aged forty-three. The specimen was referred to the Morbid Growths Committee.

Mr. E. H. FENWICK exhibited a Hydatid Tumour of recto-vesical situation. It occurred in a man aged fifty, who during life presented a large tumour in the left iliac fossa; it gave him much pain; the bladder and urine were healthy, but constipation was obstinate, though relieved by purgatives. At the necropsy a large bilobed hydatid cyst was discovered between the bladder and rectum; the upper lobe was of the size of a fœtal head, and the lower that of a large pear. A secondary cyst also existed in the liver. There were fifty such cases on record, some pressing on the bladder, and others on the rectum; they did not open into the peritoneum unless by accidental rupture. He believed that leakage from the hepatic hydatid cyst was more plausible than the theory of their subperitoneal origin.—Dr. NORMAN MOORE had examined two such cases in the post-mortem room; their existence was not suspected during life. In one, rupture into the peritoneum occurred, with sudden death; in the other, rupture, followed by peritonitis, ensued. There were no hydatids elsewhere in these cases.—In reply to Dr. Ernest Clarke, Mr. FENWICK said the patient died from the effects of a combination of morphia and drink.

Dr. CHARLEWOOD TURNER showed Thrombotic Masses in branches of the Pulmonary Artery, which he regarded as of similar nature to the fibrinous vegetations formed in the valves of the heart in consequence of valvulitis. The thrombotic masses were of varying size, some nearly two inches in length, and began at the bifurcation of large branches of the artery where the blood-current was certainly not slow. He believed that an endarteritis of the pulmonary artery was the cause of the thrombotic mass being deposited from blood, which had also become deteriorated from the normal by various diseases. The specimens were interesting when taken in conjunction with those of aortitis shown at the last meeting of the Society. The question also arose whether infarcts in the liver and spleen and elsewhere might not sometimes be due to the development of thrombi as the result of local endarteritis and consequent thrombosis, rather than to genuine embolism. It was interesting to note that in some infarcts no source of embolism could be discovered.

The following card specimens were shown:—Mr. Mansell Moullin: Primary Sarcoma of Spermatic Cord. Dr. Silcock: Glandular Epithelioma from the Lung of a Dog. Dr. Goodhart: Internal Rupture of Liver. Dr. Handford: Supernumerary Nipple in a Man.

HARVEIAN SOCIETY.

Bulbar Paralysis.—Peculiar Form of Choroiditis.—"Nodding Spasm" (Spasmus Nutans).—Cyanosis from Heart Disease.—Excision of Knee-joint.—Albuminuric Retinitis.—Left Lateral Hemiopia.—Dislocation of Crystalline Lens.

A CLINICAL evening was held on April 15th, J. Hughlings Jackson, M.D., F.R.S., President, in the chair.

Dr. BROADBENT showed a case of Bulbar Paralysis. J. H——, a stonemason, was admitted into St. Mary's Hospital on Jan. 29th, 1886. He had served in India, and there suffered from syphilis, sunstroke, dysentery, ague, &c. One year before admission he had begun to lose his voice, and had difficulty in swallowing, the food collecting in the sides of the mouth, necessitating manipulation with the fingers, the saliva dribbling away. These conditions and a gradually increasing muscular weakness had continued, with occasional remissions, until admission, when he was found to be unable to speak except in a whisper, every syllable being produced by a long forcible expiration. The vocal cords were seen to be widely separated, and could only be partially approximated on phonation. The tongue was small and shrunken, and could be moved from side to side, although only partially protruded. There was impaired movement of all the facial muscles of expression, general muscular wasting, with paresis, traces of the reaction of degeneration, increased superficial reflexes, and good sensation. Since admission there had been a general improvement in all these symptoms, the chief trouble arising from the profuse amount of saliva which frequently blocked the pharynx and larynx. When shown, the condition presented all the foregoing symptoms, the patient complaining also of pain in the left side of the face and head, with occasional nausea. The expression of the face was fixed, the eyes being very bright. The sight, however, was impaired, the ophthalmoscope showing pallor of the centre of the discs and very small vessels. The pupils reacted to light and accommodation, but were somewhat contracted. Hearing was also impaired. The heart's action was weak but regular. Respiration chiefly abdominal. The patient walked with a stiff but steady gait, but had great difficulty in getting upstairs or in rising from a seat, owing to weakness of the extensor muscles of the thigh, which, in common with most of his extensor muscles, were wasted, and exhibited to a slight extent the reaction of degeneration. The superficial reflexes were exaggerated, and there were ankle and thigh clonus in the left leg. Sensation was complete. Treatment had consisted of rest in bed, with thirty grains of iodide of potassium daily.—Dr. MAGUIRE related a case of chronic polio-myelitis, with rigidity and excess of reflexes, in which the symptoms of bulbar paralysis showed themselves towards the end of the case. Sclerosis had been found spreading from the anterior horns to the lateral columns, and a microscopic hæmorrhage had been discovered in the nucleus of the vagus. There had been no renal disease in the case.—Dr. BROADBENT, in reply to questions, stated that the extent of previous anti-syphilitic treatment of the case was not known. The larynx had probably been affected by the syphilis. Iodide had been given lately.

Mr. JONATHAN HUTCHINSON exhibited drawings of a Peculiar Form of Choroiditis, in which, with a very extreme degree of disease in the choroid, sight had been well recovered.—The PRESIDENT related a similar case which had occurred in association with locomotor ataxy.—Mr. JULER had seen a few such cases in which there appeared to be no trace of syphilis.—Mr. HUTCHINSON advocated the use of antisyphilitic remedies in all such cases.

Dr. STEPHEN MACKENZIE exhibited two infants, aged respectively nine and fifteen months, each presenting a series of more or less Rhythmical Movements of the Head, partly consisting of a nodding of the head forward and partly of a rotatory movement, the latter being more marked in one case than in the other. In each there was nystagmus, which, in one case, was almost entirely confined to one eye. The nystagmus was increased, or evoked if absent, by restraining the movements of the head. The nodding movements ceased during sleep. There were no ophthalmoscopic changes. In neither case was there decided evidence of

rickets. In both the nodding spasm came on without apparent cause. Dr. Mackenzie pointed out that they were examples of a rare form of spasm which had been well described by Henoch. It occurred especially during the dentitional period, and usually terminated spontaneously, often after the eruption of a tooth. Henoch drew attention to the association of movements of the eyes with those of the head as indicating the close anatomical relation of the roots of origin of the spinal accessory and upper spinal nerves, which supply the throat and neck muscles, with those of the oculo-motor communis, supplying the muscles of the globe.—Dr. BUZZARD described a case of rotatory movements of the head, with uniocular nystagmus. The fundus of the eye was normal, and the case improved under bromide of potassium.—The PRESIDENT thought that the movements were allied to those seen in the chorea of dogs, which had been shown to be due to affections of the anterior cornua.—Dr. GAIRDNER (Glasgow) observed that the cases were new to him. He related a remarkable case of nodding and rotatory movements of the head in a young girl, ultimately proved to be due to deception, which for years had defied detection. In these cases hysteria was out of the question.—Dr. BRISTOWE had never seen a case similar to those exhibited. Was the symptom the same as that sometimes seen in old people? He quoted the case of a boy, much given to tricks, who had adopted just such a nodding movement; and two other cases of movement of the occipito-frontalis, which had been described as nystagmus of the muscle. Both of these had recovered.

Dr. LAYCOCK exhibited a patient with marked Cyanosis, of congenital origin.—Drs. SANSOM, BROADBENT, and STEPHEN MACKENZIE believed the case to be one of congenital imperfection.

Mr. A. J. PEPPER exhibited a case in which he had performed Excision of the Knee-joint with marked success. An attack of erysipelas had complicated the case, notwithstanding the use of spray and gauze.—Mr. HUTCHINSON advocated the use of irrigation by a spirit and lead lotion in all cases of excisions of the knee, or of compound fractures and dislocations. By this means his cases had always been free from erysipelas, and wounds frequently healed within eight days.

Mr. JULER exhibited the following cases:—1. Albuminuric Retinitis, occurring in a woman during the eighth month of pregnancy. The patient had noticed her vision becoming dim about six weeks before delivery. The child was born at full term six weeks ago, but the vision was still very bad (⅔ and Sn. 6). The retinæ presented numerous large white spots with recent hæmorrhages, and there was some neuritis. The urine still contained one-eighth albumen. Was the renal affection induced by the pregnancy, and would the induction of premature labour have prevented the retinitis? In three previous pregnancies there had been no ocular symptoms. 2. Left Lateral Hemiopia, occurring in a woman aged thirty, who was attacked four months ago with slight paralysis, inducing partial loss of motion in the left arm and leg and total loss of vision over the left half of each visual field. There was no loss of any other special sense, or of ordinary sensation on either side of the body. The motor nerves had apparently regained their function, but the fibres of the optic nerves showed no sign of improvement. 3. Dislocation of Crystalline Lens in a man aged fifty. He had suddenly found the right eye misty whilst in the erect posture, but on stooping so as to bring his head between his knees he was able to read even small print. The lens could be seen floating in the bottom of the vitreous chamber during the erect, and in its normal place in the stooping, posture.

An interesting discussion followed.

YORKSHIRE ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—At a meeting of the members of this Association on March 28th, Dr. Goldie read a paper on "Some of the Difficulties that Medical Officers of Health have to contend with relative to Infectious Diseases." A discussion followed, in which several members joined. The reading of a paper by Dr. Wilson on "An Outbreak of Diarrhœa caused by Tide-locked Sewers" having been postponed, it was resolved that it was desirable that a conference of medical officers of health and others interested in sanitary science should be held during the Congress of the Sanitary Institute at York in September next, such conference to be called by, and on the authority of, the institute as part of the business of the Congress.

Reviews and Notices of Books.

A Treatise on Amputations of the Extremities and their Complications. By B. A. WATSON, A.M., M.D., Surgeon to the Jersey City Charity Hospital, to St. Francis's, and to Christ's Hospital at Jersey City, New Jersey, &c. Illustrated by upwards of 250 engravings and two full-page plates. Philadelphia: P. Blakiston, Son, and Co. Edinburgh: Young J. Pentland. 1885.

THIS work is stated to be the outcome of more than twenty-five years' devotion to the study of the history of amputations and to all the questions pertaining, directly or indirectly, to these operations. The first chapter deals with the history of amputations, and the author shows considerable research and careful reading. He gives an accurate and fairly full account of the gradual development of the art and science of amputation, and points out when and by whom the main improvements in older methods were introduced. This chapter contains much interesting information, and is very valuable for reference: it appears to us to be the most useful part of the whole book, as it contains facts not easily gathered elsewhere. The immediately succeeding chapters deal with the conditions affecting the results of amputations, the various methods of amputating, the instruments employed, &c. These subjects are treated at considerable length, long quotations from other authors, particularly English and American, being freely introduced. The fifth chapter is devoted to an account of special amputations, and is freely illustrated by woodcuts. We notice some omissions—such, for instance, as Roux's amputation at the ankle-joint, and Furneaux Jordan's method of amputation at the hip-joint. Both of these are well-recognised procedures, which certainly ought to have found a place in such a work as this. Again, although the preservation of the periosteum is mentioned in the historical sketch of amputations, we find no further reference to subperiosteal operations. In such omissions as these, and in the very free use made of the descriptions of other writers, we miss traces of a master hand, although it is impossible not to recognise the author's diligence and care. The treatment of amputation wounds is discussed in two chapters; all the methods now in vogue are described and fairly weighed, and Dr. Watson expresses his confidence in Sir Joseph Lister's method of dressing wounds. A long chapter of nearly 150 pages is devoted to a discussion of the selection and application of artificial limbs. This section is well illustrated, and contains much valuable information in regard to artificial limbs of all kinds. The concluding chapters are occupied with a consideration of the causes, symptoms, and treatment of the complications of amputation wounds, hæmorrhage, delirium, pyæmia, septicæmia, erysipelas, gangrene, osteomyelitis, and tetanus. The author has evidently laboured hard and conscientiously at his task, and has succeeded in supplying a want, but we cannot forbear expressing our opinion that a freer exhibition of the critical faculty would have greatly added to the value of the work.

Illustrations of Unconscious Memory in Disease, including a Theory of Alteratives. By CHARLES CREIGHTON, M.D. London: H. K. Lewis. 1886.

THOUGH the author has intentionally omitted to say anything of those diseased states where the application of the doctrine of morbid habit is "obvious and universally acknowledged," he has extended it in "unlikely directions," showing, for instance, that mesoblastic tumours are due to revived embryonic activity, that catarrh is a return to a more primitive kind of cellular activity, and that the so-called "stomach cough" is in reality the dregs of a former cold or irritation in the air-passages which may perhaps

have been forgotten. There is a most interesting chapter on Whooping-cough, which, whether agreed with at first sight or not, should start a valuable train of thought in the mind of the practitioner whenever a case or a number of cases of this affection comes under his observation.

"Many practitioners are sanguine in using remedies to stop the paroxysms from the outset. In what class of cases is that treatment successful? Writers on the subject do not usually distinguish one class of cases from another; or, if they do, it is in order to place in a 'spurious' class all the cases which do not suit the dogma of continuous reproduction of the specific disease by contagion. In my view, it is just those cases of whooping-cough caught by healthy subjects which are the spurious; while the real cases are those in which the paroxysmal cough is the sequel of a feverish catarrh, sporadic, epidemic, or belonging to measles." Dr. Creighton goes on to suggest that vigorous alterative or habit-breaking treatment is suitable for older and stronger children who have caught the disease from others, while in the younger children the paroxysms are a kind of postponed reaction, "bound to come out sooner or later, and the sooner the better."

A large number of other diseases are discussed in relation to unconscious memory—e.g., neuralgia, skin diseases, diabetes, and even syphilis and cancer. Some interesting remarks will be found on page 44 on the Hahnemannian doctrine of specifics. Altogether this little work of some 200 pages teems with interesting and suggestive points, and will well repay perusal even by those who might be disposed to take alarm at the highly philosophical "prologomena on memory and organic memory" which form the subject of the opening chapter.

OUR LIBRARY TABLE.

Elements of Practical Medicine. By ALFRED H. CARTER, M.D. Lond. Fourth Edition. London: H. K. Lewis. 1886.—This is a really useful and practical student's text-book, and has deservedly met with considerable success. It is written in plain language, and is by no means encumbered with detail, whilst all speculative reasoning is put aside. It is such works as this which are of the greatest value to the beginner in medicine, and of use to him in attending his first course of systematic lectures upon the subject. Having carefully studied these outlines, the student should then amplify his knowledge by the more detailed works, of which we have so many that are excellent—such as those of Roberts, Bristowe, Niemeyer, and Hilton Fagge,—his choice being determined by the needs he desires to supply, the time at his disposal, and the bent of his own mind. To the unambitious, and those who seek no other knowledge than can be available for examination purposes, it is fortunate that the smaller works, of which the present is an example, have been compiled with so much care; for it must be admitted that the student who knows these "Elements" well, and devotes himself to clinical work, will be possessed of sufficient knowledge to pass the ordinary standard of examinations.

Archiv für Anatomie und Physiologie, 1886. HIS, BRAUNE, und DUBOIS-REYMOND.—*Physiologische Abtheilung*, Heft. I. und II. This part contains—Stolnikow on the Estimation of the Blood-current in the Aorta of the Dog, with five plates; E. v. Fleischl on a Mikrostroboscopic Stimulus Research; W. Filehne on the effects of Xanthin, Caffein, and some Allied Substances; K. Hällstén on the Sensory Nerves and Reflex Apparatus of the Spinal Cord; G. Humilewski on the Influence of Muscular Contractions of the Hind Limbs on the Circulation of the Blood; J. Jegorow on the Influence of the Long Ciliary Nerves on the Contraction of the Pupil; and, lastly, the proceedings of the Physiological Society of Berlin, including essays by Christiani on the Excitability of the Respiratory Centre; Th. Weyl on the Relations of Cholestearin to the Terebenes and Camphors; Lehmann on the Functions of the Corpus Striatum; Benda on Spermatogenesis in Mammals; an account of some Demonstrations on the Ox-heart by Gad, and on the Termination of the Nerves of Temperature by Goldscheider.—*Anatomische Abtheilung*, Heft. I. und II. This part contains: Bechterew on a Special Constituent of the Lateral Columns of the Spinal Cord, and the Origin of the Fibres of the Fifth Pair of Nerves; Braune and Stahel on the relations of the Lungs to Ventilating Air Spaces, and to the Bronchi as Air-conducting Tubes; Stahel on the Relation of the Thickness of the Walls of Arteries to the Blood-pressure; R. Altmann on Improvement of Microscopes; A. Froriep on the Developmental History of the Spinal Column, and especially of the Atlas and Axis; Max Flesch, another case of Peculiar Division of the Internal Carotid Artery in the Skull; Strahl on the Formation of the Cloaca of the Embryo of the Rabbit.

The Rotifera or Wheel Animalcules. By C. T. HUDSON and P. H. GOSSE. Part III. Longmans, Green, and Co. 1886.—This part completes the first volume of the work, a work that may be expected to develop even during the period of its publication beyond the limits originally assigned to it. The authors state in their preface that their treatise contains more than 120 species which were unrecognised when Dr. Arlidge brought out his edition of Pritchard's excellent History of Infusoria; that nearly the whole of them have been added to science by the authors themselves; that about eighty of these new species, chiefly among the Ploïma, have been found by one of the authors during the last fifteen months; and that the other, by the discovery, among other remarkable forms, of Pedalion mirum has put beyond question the fact that the Rotifera in one point at least are closely linked to the Arthropoda. The plates in the present part include drawings of Microcodon, Sacculus, Asplanchna, Synchaeta, Polyarthra, Triarthra, Pteroessa, Pedetes, Hydatina, Rhinops, and Notops. The letterpress contains accounts of many new species, and is well worked up to present date.

Horse and Man; their Mutual Dependence and Duties. By the Rev. J. G. WOOD. Pp. 339. London: Longmans, Green, and Co. 1885.—The object of this work is to promote a more humane system of management of the horse. As it is intended for the use of all who possess or who have charge of horses, it is "couched in language which can be understood by all persons of ordinary education." The points on which the author particularly dwells are the present system of shoeing and the use of bearing-reins and blinkers. He would desire to see all horses ridden or driven unshod, and has collected a mass of information tending to show that this is not only practical, but desirable. Failing this, he strongly recommends the adoption of the "Charlier system," as being in all respects the most advantageous, and in this, as the result of considerable experience, we quite agree with him. He also writes strongly against the absurdity of the "hogged mane," and against the cruelty of the now nearly obsolete practice of "docking" and "nicking." He is also opposed to the generally adopted system of clipping. Although we do not coincide with the author in all his views, we can recommend his book to all who take a practical interest in horses, as containing many good suggestions, and as being likely to lead to a more humane and sensible treatment, a result to be obtained in some measure by a more effectual supervision on the part of the master. The book is remarkably well got up, the illustrations are good, and there is a copious index.

The Journal of Mental Science. April.—The original articles are:—Dr. Achille Foville: The Right of Reclamation of the Insane before the Civil Courts. Dr. E. M. Courtenay: Irish Asylum Dietary. Dr. Savage: Drunkenness in its relation to Criminal Responsibility. "Triboletes": The Psychological Bearings of the recent Matriculation Exami-

nation of the London University. There are many interesting "Clinical Notes and Cases," of which we specially mention Dr. Wiglesworth's case of Old Amputation of the Left Upper Arm associated with Atrophy of the Right Ascending Parietal Convolution, Dr. H. White on a case of Saturnine Insanity, and Dr. J. Mickle on some Abnormal Forms of Breathing.

The Journal of Heredity. Vol. I., No. 2. Chicago.—This quarterly is a most amusing production, being chiefly a collection of writings by various authors; the amusement comes in from the nature of the subject allowing the introduction of remarkable anecdotes, queer advice, and logical fallacies. Dr. Kellogg's article "Who may not Marry?" has much excited our organs of risibility; but, for all that, the advice given is based on sound principles: "Criminals should not marry; marriage between widely different races is unadvisable; persons who are unable to sustain themselves or a family should not marry; do not marry a person whose moral character will not bear the closest scrutiny."

The Journal of Physiology. Edited by MICHAEL FOSTER. Vol. VII., No. 1.—This part is entirely occupied with Dr. Gaskell's paper on the Structure, Distribution, and Function of the Nerves which innervate the Visceral and Vascular Systems, with four plates.

"Unicode": a Code of Cypher Words for Commercial, Domestic, and Familiar Phrases in Ordinary Use in Inland and Foreign Telegrams. Cassell and Company, Limited.—This telegraphic phrase-book aims at two particular qualities—viz., a low price and a universality of employment. The main features of it is the exclusive use for the cyphers of Latin words which are said to conform strictly to the regulations of the International Telegraph Conferences held in Paris, London, and Berlin. It is claimed that the confusion sometimes arising when the English words generally employed in existing codes for cyphers, read intelligibly, is thus avoided, and that the compilation having been made under the personal supervision of telegraphic experts of long experience, the cypher words are, from their telegraphic construction, the least liable to erroneous transmission by the operators. The cypher words are arranged alphabetically, and the phrases are likewise so arranged, having regard to what is in each the principal or key-word. There are some 120 phrases under the heading "health," which will be found useful as a means of conveying, economically and rapidly, to anxious friends at a distance the doctor's report on the state of the patient's health. At the end of the book is added a selection of cypher words which will never be included in the "Unicode" for permanent use with any specific phrases, but are intended only for private phrases to be arranged specially between individual correspondents. These, we think, might be made very serviceable to the busy practitioner. The employment of Latin words has in the "health" section occasionally rather an odd effect; for instance, the phrase "taken ill" is represented by the cypher word "dysuria"; "attack is considered not serious" by "diploma"; whilst "femur" means "very much better."

THE SUPPLY OF THE PROFESSION.

SIR LYON PLAYFAIR is not the only public man who has had exaggerated fears of not being able to fill the ranks of the profession. Accordingly we feel it our constant duty to keep our eye on the supplies, and we are bound to say that they are more than enough to meet the natural waste, and that they who enter the medical profession of the United Kingdom must reckon on entering a somewhat overstocked profession. The average annual deaths of registered medical men for ten years past have been 585, and the average annual number of additions to the Medical Register has been 1135, giving an annual excess of 550, which, after all further possible deductions, leaves a sure addition to the excess of the profession. The average annual number of medical men added to the Register in the last three years was no less than 1356. The same conclusions may be reached by studying an interesting return which is carefully prepared annually by the Registrar of the Medical Council—the "Medical Student's Register." From this we find that 1884 medical students were registered last year in the United Kingdom—910 in England 639 in Scotland, and 335 in Ireland. The tables and statistics of this Register, and other information it contains, are well worthy of study at the present time, when our legislators are invited to deal very superficially with the reform of our educational and examining system. Two things may be studied here: first, the quarters to which our students repair to pass those preliminary examinations which must be passed prior to the commencement of medical studies; and secondly, the medical schools which they favour for acquiring that education and those qualifications which are to fit them for their future profession. We have made a selection of the chief Preliminary Examinations, and state the number of students registered in 1885 on the strength of having passed them. Giving only the Preliminary Examinations, which were passed by thirty or more students, the facts are as follows:—

College of Preceptors	417
University of London Matriculation	181
University of Edinburgh Preliminary... ...	169
Royal College of Surgeons in Ireland	163
University of Glasgow Preliminary	155
Royal University of Ireland Matriculation ...	126
University of Aberdeen Preliminary	76
Royal College of Physicians & Surgeons, Edin.	70
Cambridge Previous	66
Apothecaries' Society, London	62
Faculty of Physicians and Surgeons, Glasgow.	45
Cambridge Junior Local	43

Only 53 entered the profession with the Arts Degree of any of the universities of the country.

The Medical Schools at which students entered (counting only those Schools with entries above 20) were as follows:—

University of Edinburgh	265
University of Glasgow	164
University of Cambridge...	90
University of Aberdeen	88
St. Bartholomew's Hospital, London	88
St. Thomas's Hospital, London	50
Carmichael Medical College, Dublin	50
Owens College, Manchester	49
Queen's College, Cork	49
Queen's College, Belfast	46
London Hospital	45
Guy's Hospital, London	41
University College, London	39
King's College, London	34
St. Mary's Hospital, London	32
Edinburgh (Extra-Academical Teaching) ...	32
University College, Liverpool	30
School of Physic, Ireland	30
Royal College of Surgeons in Ireland	28
Ledwich Medical School, Dublin	27
Charing-cross Hospital, London	25
Catholic University Medical School, Dublin ...	25
Yorkshire College Medical School	24
Westminster Hospital, London...	21
Bristol Medical School	20

The old method of commencing medical studies by pupilage with a medical practitioner is for the time being in some abeyance, but it is still recognised in the Regulations of the Council, and has been followed in England by 188 gentlemen, the names of whose masters appears in this Register; in Scotland by 11 gentlemen, in Ireland by 31.

THE LANCET.

LONDON: SATURDAY, MAY 1, 1886.

IT is a noticeable fact, and as far as we remember an unprecedented one, that though a Medical Bill is before Parliament there is no sign of a meeting of the Medical Council. On all previous occasions this body has felt called upon to discuss the nature of such Bills, and even to make recommendations. On some occasions this has been done when there was less reason for such a proceeding than at present. But now when a Bill is before the House subordinating the Medical Council to an unprecedented extent to the Privy Council—in other words, compromising the independent government of the profession—the Medical Council gives no sign. There are also nine or ten medical corporations in the country, whose boast it is that they are the guardians of the interests and the honour of the profession. We do not hear that as yet they have made any communication to the Government indicating that in their opinion the profession is still capable of self-government, and that a Medical Council could easily be devised to which full powers might be extended of maintaining the standards not only of ordinary medical qualification but of medical graduation, and of punishing bodies which are unfaithful to their trust as ordinary examining bodies, or which deal in high titles and low examinations. The fact that Sir LYON PLAYFAIR thinks it necessary to introduce the Privy Council into his Bill between forty and fifty times is about the most damaging fact to the existing authorities, and to the system of twenty rival and competing examining bodies, which we can imagine. The obvious cure for this is to reduce the number of examining bodies and to abolish the system which allows most of them to send a separate representative to the Medical Council. Such were the main recommendations of the Royal Commission on the Medical Acts, composed of the most authoritative public men. Such have been the chief points aimed at by medical reformers for fifteen or sixteen years back. Yet the Bill which is before Parliament practically leaves things as they are. It may be said that there is a provision for recognising, if not securing, the decay of bodies that have outlived their *raison d'être*. So there is. But there is a counter provision for maintaining such bodies in perpetuity. For example, it cannot be doubted that we could most easily dispense with a corporation in each division of the kingdom, and that the Royal Colleges could amply do all the ordinary work required of medical corporations. In England, certainly, the Colleges have determined to leave out in the cold the Apothecaries' Society. But the Medical Bill has not even the courage of its immediate predecessor. It cannot disestablish the Apothecaries' Society. It provides in Clause 5 that in case a medical corporation represents to the Medical Council that it is unable to enter a conjoint scheme, the Medical Council may, of course subject to the Privy Council, appoint any number of examiners to assist at the examinations, and enable it to grant a diploma in all branches, and the right of registration under the Medical Acts. So that one of the possible results of the new Bill, if it becomes law, may be that we shall see the Apothecaries' Company with a few assessors appointed by the Medical Council, and a diploma of one-third the cost of that of the conjoint Colleges, competing with the Royal Colleges of England. Or we may see each corporation in the three divisions asking for the co-operation of the Medical Council for making its diploma complete and continuing the present rivalry of twenty bodies. Another defect of this Bill is that it does not make any attempt to deal more stringently with the great evil for unqualified practice. But in the present Medical Bill no attempt is made to amend the penal clauses of the Act of 1858.

We shall be told that this Bill concedes Direct Representation, and ought to be gratefully received by the profession. It is high time the profession was represented in a Council which it entirely maintains, which has the judicial power of erasing names from the Medical Register, and which, finally, has often shown the want of members familiar with the educational needs of the medical practitioner. But we cannot admit that the addition of four direct representatives to a Council already so big, and so bad in its constitution, will do any adequate good. The Bill is meant to please everybody, and, like all such Bills, it is weak and nearly worthless. It remains to be seen whether the medical members of the House will apply any adequate criticism to the measure, or whether it is to pass like so many other timid and powerless Bills. There are members of the profession in the House who could rise above party or corporation standpoints. The Bill does not pretend to give any power to the Medical Council in the matter of the standards for medical *graduation*, which, as well as the standards of mere competence, are of great consequence to the public and the profession. Without such provisions we may see a general levelling downwards of all the examinations and the degradation of medical graduation.

THE Gulstonian Lectures of the present year covered very wide ground, and touched on most of the problems that the motor side of the nervous system presents for consideration. The motor area of the brain with its appendages, and the similar apparatus of the spinal cord, possess a potentiality for spasmodic disorder which Dr. SHARKEY certainly did not over-estimate. The spastic states that result from disease of the all-important pyramidal tracts have received of late years so much clinical and pathological illustration, that we seem in regard to them to have really acquired some definiteness of information. The production of involuntary or spontaneous movements is an etiological subject which, though in a measure the exact antithesis of that of paralysis, nevertheless cannot profitably be studied apart; for the tendency of all ancient and modern research, both experimental and clinical, is to demonstrate that the two seemingly opposite states are dependent on one and the same morbid process. This notion has been variously expressed by different authorities at different times and in accordance with various circumstances, but none of the expressions appear to us to be more illustrative than that, we believe, of Dr. BROADBENT: Movements are half-way houses to

paralysis. The old authors' phrase, "irritable weakness," could not have been understood by them so thoroughly as by us, for we have the light of modern physiology to aid our conceptions, but the phrase contains the same germ of truth. The external manifestations of kinetic energy, far from being signs indicative of great potential powers, may be regarded as evidences of an internal instability of molecular processes, from "whose mouths the bits" can be too readily disengaged.

In the region of movements, physicians, like all physiologists, have long distinguished between the apparently continuous muscular contraction and the evidently intermittent spasm, to which the terms "tonic" and "clonic" are respectively applied. Whether there is any essential internal difference between the two forms of spasm is a question that still remains unanswered. It is possible that the problem may be solved in two opposite directions, in accordance with possible differences in the cerebral and spinal motor apparatus. The motor discharging elements of the spinal cord may conceivably emit their energy in a practically continuous fashion, as we may assume they do in the maintenance of normal muscular tone; but such a constant liberation of energy would not harmonise completely with all that we know of the mode of discharge of motor nerve elements; and we have in the phenomenon of tetanus a continuous muscular contraction that is well known to be maintained by regularly interrupted impulses. Further, SCHAEFER and HORSLEY have formulated a law to the effect that nerve motors have a normal rate of discharge of about 8 (or some multiple thereof) per second.

Dr. SHARKEY believes that the chief offender in the production of spasm or any variety of abnormal movement is the pyramidal tract, which includes the cerebral motor centres and their downward paths. On Dr. SHARKEY'S teaching—and we confess to a sympathy therewith,—if the practitioner comes upon a case of tremor, tonic spasm, clonic spasm, coördinated involuntary movements, or tetanic seizures, the chances are that the cerebral motor or pyramidal tract rules the situation—is the etiological master of the morbid phenomena. It is worth while for a moment to ask what all this amounts to. At first sight it might not appear to be a great assertion to make. But a little reflection alters the apparent aspect, and discloses a generalisation which might have been a truism were it not for the fact that so many other explanations have been offered concerning the production of "involuntary," or, as we prefer to say, "spontaneous," movements. A superficial thinker might say: "You assert that all, or nearly all, movements are the result of some disturbance of the pyramidal tracts. Well, there is nothing novel or startling in that, for we have for some time known that there is a motor apparatus in the brain, and if the movements do not originate in that, where should they be initiated?" Carrying this train of thought a little further, such a one would urge that it does not matter whether the impulse is a normal one (the will and ordinary automatism), or an abnormal stimulation, such as hæmorrhage, sclerosis, tremor, and the like. The production of normal movements is probably a question of inhibition. The "way out" of cerebral impulses through the motor area and pyramidal tract may be regarded as the path along which inhibitory impulses go to the spinal motor centres and set free normal movements which are there "represented." It is probable that the causes of disease act in a similar though irregular manner; they "let go" in a disorderly fashion the spinal motor centres, and so, to use Dr. HUGHLINGS JACKSON'S words, we have a "permitted hyper-physiological activity." But if Dr. SHARKEY'S views are correct—and we must confess that with certain qualifications we are disposed to accept them—they have been extricated from much entanglement by his own clear, steady, and judicious intellect. Let us look into this matter a little more closely. Dr. HUGHLINGS JACKSON believes that cerebral rigidity is due to unopposed cerebellar influence, and that cerebellar rigidity, tetanus, and tetanic seizures in cerebellar disease are the outcome of unantagonised cerebral influence. The spinal motor centres are coördinately innervated from the two regions, cerebellum and cerebrum. Dr. SHARKEY has examined this view, and does not appear to share in it. He points out, as Dr. HUGHLINGS JACKSON has truly observed, that the tetanic seizures of cerebellar disease only, in general, accompany tumours of the middle lobe of that organ, and this apparently only when the tumour is large enough or hard enough to press on the pons and medulla. If this fact be granted, then it is plain that the convulsive seizures can, according to all that we at present know, only be caused by an irritation of the grey matter of that region or by some interruption or damage to the pyramidal tracts. Dr. SHARKEY inclines to the latter view. The convulsive centre of NOTHNAGEL lends a kind of support to the former. But what shall we say when a tumour situate below the medulla oblongata is associated with similar tetanic seizures? It must be admitted, with but slight precautionary reservation, that the pressure or damage to the pyramidal tracts is the cause of them. This explanation is not, however, the whole matter. In the early stages of tumours of the middle lobe of the cerebellum tremors with paresis may be observed. The lecturer suggested that the mechanism of their production is identical, and differs but in degree from that of the causation of rigidity or tetanic seizures. If the pressure on or damage to the pyramidal tracts be slight, we should expect a mere interruption, or an imperfect passage of normal impulses to spinal motor centres, and so tremors would result; a further degree of pressure or damage would lead to permanent rigidity; and if the pressure or damage were liable to variations, tetanic paroxysms might result. The theory is ingenious, is simple, and must be admitted harmonises with ascertained facts. To sum up, we may assert that any organic disease of the cerebral motor area and pyramidal tract, provided it damage the essential protoplasmic elements, will give rise to some form of spasm. Cases of congenital absence of motor convolutions, where the pyramidal tract does not develop, support the view that it is not a question of irritation by sclerosing processes, but rather a "letting go" of the spinal motor centres, a removal of inhibition, a permitted hyper-physiological activity of the spinal motor centres. It has been argued that if this were the real mechanism of rigidity, then any sudden rupture of the pyramidal tract should be immediately followed by rigidity. But apart from the fact that the rigidity has

occasionally been observed to come on very rapidly, Dr. SHARKEY suggests that the spinal motors, long accustomed to restraining influences, may take some time to get rid of their organic memories, and this is a process that would require time, during which the centres are gradually relieved from the burden of their former masters. We know that usually an increase in the knee-jerks precedes, as also does the phenomenon of ankle-clonus, the appearance of rigidity in most cases of hemiplegia due to rupture of pyramidal fibres. But there may be other plausible explanations. For example, it may be that the hæmorrhage causing hemiplegia replaces for a time in an imperfect manner, by stimulating or irritating the divided ends of the pyramidal fibres, the restraining influence of the motor centres. And it is certain that in some forms of disease of the pyramidal tracts deep reflexes are not at first increased, but rather diminished. Here we might suppose that some influence is exerted on the pyramidal tracts that does more than replace the normal inhibition—in fact, constitutes a more powerful restraint. Another interesting matter touched on was the precise meaning of increase in the knee-jerk, the explanation that he and others hold being that reflexes from tendons and muscles may have a period of latency much shorter than ordinary reflex actions. Another point referred to in the lectures was the possibility of the production of spasm from disorder of the spinal motor apparatus, including its afferent and efferent nerves. Most physicians will probably agree with the lecturer in thinking that mere irritation of the afferent nerve is an infrequent cause of spasm; the centre itself either is or soon becomes under the influence of afferent stimulation, in a state of over-activity. Again, although physiologically it is easy to understand that various kinds of stimulation of the peripheral motor nerves may produce spasm, yet pathologically this process does not appear to be of very common occurrence. The subject of functional spasm is one of the greatest interest, and in the progress of civilisation likely to become still more important; for as civilisation advances the motor as well as the sensory processes of the cerebral, as opposed to the spinal apparatus, become more and more developed and strained. In this relation the connexion between hysteria and neurasthenia naturally arises, at least in regard to the motor disorders which are described under these names. Let us look with Dr. SHARKEY once again at the pyramidal tracts, and contemplate the possibilities of their "functional" disease. It is not unreasonable to suppose that under various conditions, which need not here be specified, the nutrition of the pyramidal tracts, including their motor centres, may be lowered or disordered. Hence the various neurotic and hysterical spasms. There is another department of this question that also requires elucidation. The motor cells in the cerebral cortex govern the nutrition of the axis cylinders composing the essential part of the pyramidal tracts; are we to believe that the nutrition of these fibres is equally well provided for throughout their whole extent? Is it not possible, as Dr. GOWERS implied in his address read before the Medical Society of London, that their very terminations, being remote from the centres of nutritional energisation, are more liable to functional derangement? This view was the one Dr. GOWERS adopted in the explanation of hysterical spastic paraplegia and the like. These terminations of the pyramidal tracts are his local inhibitory centres. But truly the subject is inexhaustible, and we must take leave of the present successful Gulstonian lectures by drawing attention to the comprehensive view of Dr. SHARKEY that organic as well as functional disease of the pyramidal tracts is the chief cause of spasm from chronic nerve disease.

OF late years there have been many schemes for the sanitary improvement of dwelling-houses. Some have been accepted as worthy of serious consideration, others have not been regarded as coming within the scope of practical egislation, but they are all nevertheless signs of a growing feeling that houses which are intended as dwelling-places for human beings should be so constructed as to afford reasonable opportunities for the enjoyment of health by their inmates. This was particularly shown by the Housing of the Working Classes Bill, which proposed to extend to unfurnished houses the provision which already relates to furnished houses—namely, that there should be an implied warranty that such houses, when let, are fit for habitation. It is true that this clause did not become law, but nevertheless it was accepted so far as relates to certain houses occupied by persons of the working classes. There is not much probability that these people will, without assistance, avail themselves of the opportunity this Act affords for obtaining compensation when their health has suffered from the condition of the house which they have rented, but the recognition by the Legislature of the principle embodied in the Act is one of the most important of recent advances in sanitary law.

Certain enthusiastic sanitary reformers desire to go much beyond this point, and it has even been suggested that every dwelling-house and other building shall be certified as to its proper sanitary condition, and that the duty of procuring such certificate should be imposed upon the owner or occupier. Such is the proposal of Mr. MARK JUDGE, who has even gone so far as to shape his ideas in the form of a Bill. We doubt much if such a suggestion will be seriously entertained; it has only to be recollected that there are in England and Wales upwards of five million dwelling-houses apart from other buildings, and that the cost of obtaining a certificate would probably not be less on an average than one or two guineas for each house, to show the practical impossibility of such a scheme. It is difficult to estimate what expenses would be incurred in the improvement of houses for which a certificate could not be obtained without alterations, but it is obvious the sum of money needed for the purpose would be a serious obstacle to the acceptance of such a measure. It might, too, be objected that it is unfair to mulct the owner of a house in good sanitary condition in the expense of obtaining a certificate which for him can serve no good purpose; under these circumstances it is the surveyor rather than the householder who would be benefited.

There is nevertheless very much need for the more active enforcement of the law with regard to newly built houses, and this is particularly noticeable in the metropolis, where considerable legislative powers have been conferred upon the vestries and upon the Metropolitan Board of Works. It

is no exaggeration to say that, with few exceptions, these bodies do not concern themselves to any greater extent with the drainage of a house than to see that the house drain has a communication with the sewer, yet the vestries have since 1855 had full powers to order the drainage to be made in such direction, manner, and form, and of such materials and workmanship, as the vestry shall order. As a result of this negligence drains are laid which leak at the joints and saturate the soil with sewage, no provision whatever is made for their ventilation, and apparatus is daily introduced into London houses which local authorities are urged to prohibit by the model bye-laws of the Local Government Board.

But all the fault does not lie at the door of local authorities. If amusement is legitimate in regard to conditions so deplorable, a paper by Mr. FRANCIS VACHER, the medical officer of health for Birkenhead, will supply it. Mr. VACHER gives an instructive account of examples of negligence and ignorance in the work done by artisans belonging to the building trades. It is a paper we would commend especially to working men, for the writer clearly shows that the artisan is no less a sufferer than the employer for whom he works, or than the occupier of the unhealthy house he has assisted to build. Mr. VACHER pleads for the better supervision of buildings by local authorities and their officers, and recommends the adoption of a course which would enable the uninitiated householder to protect himself by the employment of skilled workpeople. He would open in every centre of population a register which should contain the names of those workpeople who were known to the guilds of their trade to be properly qualified. The Plumbers' Company have resolved to establish "a system of registration in the City of London and seven miles thereof," and a register for qualified plumbers was opened on March 1st. Londoners at any rate will shortly be able to know to whom to trust their plumbing, and it may be hoped that other trades will follow the example which is set them, and that it will at last be possible to ensure that money spent on sanitary improvements will be laid out to the best advantage. The increased liability of landlords for the condition of the premises which they let renders it imperative that they should, in their own defence, employ those who may be trusted to preserve them from actions for damages, and will make the enforcement of sanitary law more acceptable to that numerous class of property owners who now influence local authorities.

Two very interesting cases of Bullet Wounds of the Brain successfully dealt with by operation have been recently reported by American surgeons. The first and more important is reported by Dr. FLÜHRER, one of the visiting surgeons to the Bellevue Hospital, New York. A young man, nineteen years of age, was admitted under his care for a bullet wound over the centre of the forehead. The injury was self-inflicted, and was immediately followed by unconsciousness, which lasted for three-quarters of an hour, after which the patient rose and walked some distance; then he became aphasic, and on admission to the hospital, soon after, was semi-conscious, having paralysis of the right side of the trunk and right limbs, and hyperæsthesia on the left side. After all preparations had been made to conduct the operation aseptically, the scalp was turned aside and the opening in the skull enlarged. Profuse hæmorrhage ensued; this was partly from the superior longitudinal sinus and easily controlled, and partly from a wounded branch of the anterior cerebral artery, the securing of which entailed great trouble, and was only achieved after the loss of a considerable amount of blood. The next step was to explore the track of the bullet through the brain by means of a large probe. The ragged opening of the entrance of the bullet was seen in the first frontal convolution, just at the inner edge of the hemisphere. The probe passed back and slightly to the left for about six inches, when a soft resistance was detected. With the probe *in situ*, a spot was marked on the scalp where its end would emerge if projected. Over this spot the scalp was reflected and the skull trephined. The dura mater, which was entire, was incised, and a little dark blood beneath it allowed to flow out. The opening in the skull and dura mater was enlarged in the supposed direction of the bullet until the finger could be passed in. A slight resistance was then felt in the brain. Instead of exploring this, more of the skull was cut away until a rent in the pia mater was exposed, with a quantity of torn brain-matter lying over it. Into this opening a probe was passed, which struck the bullet at the depth of an inch, and with small dissecting forceps this was then removed. Subsequently the probe could be passed quite through the brain from the anterior to the posterior wound, and into this tract a drainage-tube was passed. The entire operation lasted "about four hours." The subsequent history of the patient may be briefly summarised. A hernia cerebri developed at each wound, but neither of them grew fast or extended rapidly, and eventually both shrank; the wounds healed up, and the patient was restored to health. The right-sided paralysis and the aphasia passed off, and the man resumed his work in a butcher's shop. Subsequently he received a severe blow upon the anterior scar, felt acute pain, and then noticed spasm of the flexor muscles of the right arm and leg, which spread over to the left side. These symptoms recurred once. Under the influence of bromide of potassium the patient had remained free from any bad symptoms for fifteen months at the time when the report of the case was published.

Dr. FLÜHRER founded the treatment he pursued in this case upon the well-known fact that bullets entering the brain very frequently traverse it, and glance off again from the interior of the skull. He therefore advises that when a bullet is known to have entered deeply into the brain, the line of its track should be marked by carefully introducing a probe, and that the skull should be trephined at the spot where the ball will have struck it on the interior; from this second aperture the deflected course of the bullet can be easily traced, and through it the bullet can be extracted. The suggestion is a bold one, and without such a success as Dr. FLÜHRER achieved in the first case in which he practised it, surgeons would probably long hesitate before adopting it. It rests, however, upon a solid basis of fact, and, further than that, the double opening in the cranium is of great advantage in enabling the surgeon to have thorough drainage of his wound—a

very important consideration. Unfortunately the effects of a bullet wound of the brain vary within wide limits, not only with the region injured, but with the number and size of the vessels torn across. In many cases the condition is complicated with severe internal hæmorrhage. Where, however, there is no reason to suspect this, and the case appears to be uncomplicated, Dr. FLUHRER's suggestion is well worthy of the fullest consideration. Cerebral surgery is in its infancy; the results already attained have shown that it would not be wise at present to set any limits to its development, and we may therefore hope that even penetrating bullet wounds of the brain may prove to be amenable to surgical measures.

The second case to which we would allude is recorded by Dr. C. F. MACDONALD in the April number of the *International Medical Journal*. The patient was a convict who had received a bullet wound of the skull three or four years previously, and had become insane. A scar over a depressed fracture of the skull was detected 1½ in. above the edge of the hairy scalp and ¾ in. to the right of the median line, over the right first frontal gyrus, at the junction of its anterior and middle thirds. Pressure upon this spot caused intense pain and "violent bodily agitation." It was determined to explore the seat of this injury, and for this purpose the scalp was reflected, when an aperture in the skull was found, closed over by firm membrane; through this a hypodermic needle was passed in four directions, and on the last occasion clear serous fluid rose into the syringe, and in this way nearly two drachms of the fluid were withdrawn. The wound was then closed. In less than three hours after the operation the man was able to give a clear account of the injury and of his subsequent career, and all symptoms of insanity had vanished. From this time he advanced to complete recovery. Dr. MACDONALD considers that the fluid was contained in a simple serous cyst, as it did not contain any evidence of hydatids or of old hæmorrhagic or inflammatory effusions. Unfortunately the pathology of cysts of the brain is quite obscure. The case, however, is a great encouragement to interfere surgically where cerebral symptoms supervene upon a head injury, even although years may have elapsed.

"ALL work and no play maketh Jack a dull boy"; and yet if Jack be not constitutionally bright and resilient in his temperament he can make very little use of an occasional and brief holiday. Theoretically it is good to stop the machinery now and again and give its bearings time to cool down; but practically this stopping the works and setting them going again takes a great deal out of the apparatus in the way of additional friction. Who among us does not feel so much upset and thrown out of his swing by the enforced holiday—which is just long enough to break the rhythm without being sufficiently long to give a lasting sense of relief—that he sometimes doubts whether the one or two days' respite from routine work is not too dearly bought, when all the trouble and worry of preparing for it, and afterwards making compensation for the delay or neglect of daily duties, are taken into account?

The value of a holiday ought to be estimated on the basis of what it actually does for the worker. Is he the better for it in mind and body a while after it has been enjoyed? We have always contended that public holidays which involve the conversion of our cities into places apparently deserted are mistakes. If Sir JOHN LUBBOCK had only contented himself with bringing in a Bill to compel employers to give their servants a fixed number of days in the year for leisure and enjoyment without specifying the particular days to be observed, he would have conferred a boon on the community of serving folk of all classes without needlessly increasing the number of dead points to be overcome by extraordinary efforts. As it was, we had fifty-four breaks in the annual routine of business-life among Englishmen, and it may have been scarcely worth while to add to the number, particularly as it was, is, and we presume ever will be, foreign to the spirit of English Rule—albeit that is becoming each year increasingly *paternal*—to provide anything in the shape of public entertainment for the people. It is, however, useless to regret what has been done in the matter of Bank Holidays. That their institution was well-intentioned no one for a moment questions; our only doubt is whether the benevolent idea might not have been less inconveniently and more effectively carried out.

For the relief, even momentary though it be, of minds jaded with the monotony or wearied with the tension of daily work, and of bodies aching for the repose of certain groups of muscles, holidays doubtless have their direct advantages. Their chief value is meanwhile probably collateral. They afford opportunities for the stimulation of fresh cerebral centres by diversion of thought, the use of other groups of muscles than those habitually exercised, and in many instances an excursion among new surroundings, which may refresh the sense organs and supply the thinking part with additional material, brought before it in the pleasantest of all ways, by observation and experience. There is also something gained by fresh air and travel, hurried though it be. Physically and psychically, the holiday may be made to fulfil a useful purpose if only it be wisely used. We are not of those who conceive that life must needs be one long strain of duty. There may very properly be seasons of relaxation; or, to put the same remark in other words, the day's duty may, occasionally at least, consist in duty to self—that is, the higher, inner, and true self. Unfortunately there is nothing English men and women so little understand as how to "enjoy themselves." Children have the advantage of us in this respect. The art of *playing* is lost before the average mortal attains to middle age. Perhaps the very wisest and best thing to do would be to make these holidays children's days: to refer the whole question of holiday-making to a committee of young people, none of whom should be over twelve years of age, and to surrender for the particular period determined by the "holiday" the disposal of time and the selection of ways and means to those with whom "enjoyment" is an integral part of existence, and whose birthright it is to be able to make merry without wantonly sinning against light and conscience. Father and Mother Bultitude might not altogether like the *vice versâ* experience of being subjected to the tyranny of their own children; but the adverse position would not be a permanent one; and we are disposed to think that, except in such specialties as "hard-bake" and "tip-cat"—which exacting and perilous amusements might be eschewed,—the gain to health of body and mind from a good round of playing and sight-seeing such

as any well-constituted child mind would devise would be greater than that secured by the majority of our adult schemes and conceptions.

Everything depends on the use made of the holiday, and to this condition attention needs to be more than commonly directed. Speaking generally, we should say that the very smallest practicable amount of good is actually got out of these holidays by the majority of the population. The state of the streets shows only too obviously how large a proportion lose rather than gain by the cessation of labour. The enjoyment of a holiday presupposes a certain capacity for utilising leisure which probably can only be developed by experience. Perhaps in the next generation English men and women may have come to possess the essentials for this self-help in the task of recreation. Meanwhile something may be accomplished by the serious consideration of a business which certainly requires an apprenticeship—that of "being happy." We sometimes regret that there is so little happiness in life. Depend upon it, there is just as much as we ourselves put in, and not a particle more. Those who would find the world a place of peace, and health, and happiness for body and mind must themselves make it so.

Annotations.

"Ne quid nimis."

THE SANITARY CONDITION OF CLERKENWELL.

MR. JOHN HAMER, the Honorary Secretary to the Mansion House Council on the Dwellings of the People, has addressed to the editor of *The Times* a letter which strongly supports the opinion we have ourselves expressed, that the inquiries now being held by Mr. Cubitt Nichols in no sense properly fulfil the intentions of the Royal Commission on the housing of the working classes, when they recommended that a sanitary survey should be made of the different metropolitan districts. Mr. Hamer points out that Mr. Nichols admits "the almost literal accuracy of the complaints made by the Council with regard to 464 premises" which came under their notice as the result of a month's inspection. Mr. Nichols appears to have extended his own inspection only to some fourteen more houses, and yet upon facts like these Mr. Nichols reports to the Home Office respecting the parish with its 7825 uninspected houses, and with its 475—the only ones challenged—found to be bad, "I do not consider the parish to be in a bad sanitary condition." We have no hesitation in stating that we believe if a report had been presented to the Local Government Board by any of its medical inspectors which had not more reason for the conclusions which it contained, it would not have been accepted by that Board. The fact is but too evident that the meaning of the words "sanitary survey" has not been appreciated. The duties and powers of the vestry do not appear to have been sufficiently considered or understood, for the report does not go far beyond an inquiry into the question whether certain statements emanating from the Mansion House Council are well founded. We have already expressed our appreciation of the work which this Council has done, but we cannot acknowledge that any inspection a voluntary association may undertake ought to be permitted to replace the detailed inquiry which should be made by an inspector of the Government. The government of London is too complex to be immediately understood, and in all probability the failure we have indicated is due to this circumstance. In another column we have referred to the powers the vestries possess to ensure the proper drainage of new houses. Have these powers, we would ask, been exercised by the vestry of Clerkenwell? There does not appear to be a single line in Mr. Nichols' report which gives any information on this all-important subject. It would be possible to show, in regard to a number of other points, the insufficiency of the inquiry, and we cannot but regret the loss of an excellent opportunity for learning with thoroughness the sanitary condition of London and the administrative capacity of its local authorities. That the inquiry will be of service we do not doubt, but we fear that the good it will do will be limited to the time any district is the subject of observation; and certainly, so far as we understand the intention of the Royal Commission, a golden opportunity is being lost.

THE SEASONAL PREVALENCE OF PNEUMONIA.

WE are indebted to Dr. Seibert of New York for having more than once directed attention to the close relation existing between those meteorological conditions which favour catarrhal affections and the occurrence of acute (fibrinous) pneumonia. At the present day, when the specific nature of this disease is receiving so much confirmation, it is especially useful to have the question viewed from another side. In his latest contribution to the subject (*Berl. Klin. Wochenschr.*, 1886, No. 17), Dr. Seibert affords conclusive evidence of the above-named connexion. His material was obtained by a collective investigation of returns furnished by members of the New York Medical Society, from March 1st, 1884, to March 1st, 1885. They comprise 768 cases of primary pneumonia, distributed in the various months as follows: January, 71; February, 140; March, 103; April, 73; May, 55; June, 37; July, 26; August, 25; September, 43; October, 62; November, 65; December, 78. A comparison with the average temperature of these months shows a striking correspondence between the lowness of temperature and prevalence of pneumonia; and a similar correspondence is manifested with respect to rainfall, except in the summer months, when, in spite of great humidity, there was a minimum of pneumonia. It is also shown that the prevalence of bronchial catarrh closely coincided with that of pneumonia. Dr. Seibert has not, however, been contented with these general monthly returns, but has placed side by side the results of daily meteorological observations and the date of occurrence of cases of pneumonia during each month of the year. The chart compiled from these data for the month of February will be found in his paper; and it is remarkable how closely the onset of pneumonia follows upon days in which there were combined low temperature, excessive humidity, and high winds. Without attempting to give examples of these relations, it must suffice here to allude to the conclusions at which Dr. Seibert arrives. These results are to the effect that the varying prevalence of the disease can be explained by certain meteorological states which favour its occurrence. These conditions are a low and falling temperature, an excessive and increasing humidity, and high winds. When any two of these factors concur, pneumonia prevails to a greater extent than when only one of the factors is present; whilst if all three factors are in operation, then pneumonia is exceptionally frequent, the frequency lasting as long as the meteorological conditions obtain. The same states of weather favour catarrh, and catarrh predisposes to pneumonia. That pneumonia is more prevalent in spring than in autumn is due partly to the greater liability to exposure after residence in hot and ill-ventilated rooms during the winter, as well as probably to the greater humidity of spring. Finally, the author does not wish it to be inferred that these meteorological conditions are the sole

factors at work in exciting pneumonia; his opinion rather is that by exciting catarrh they render individuals more vulnerable, and susceptible to the influence of the pneumonic virus. In this way his observations can still be made to harmonise with the doctrine of the specific nature of pneumonia.

THE NEW ASYLUM FOR LUNATICS IN MIDDLESEX.

WE must disclaim the least thought of influencing the Middlesex magistrates. They are far too conscious of the worth of their own opinions to care a cent for ours. We have often tried to induce them to look at matters from a point of view even slightly different from that which they have elected to take, without even a suspicion of success. We doubt whether there exists a power which could, by the most stupendous exertion, convince a Middlesex magistrate against his will, and, if there be, we are perfectly certain the worthy magistrate so convinced would be of the same opinion still. Not even in matters strictly medical do the members of this remarkable and interesting board yield place to the doctors. What it takes ordinary mortals many years of hard study to master, comes to a Middlesex magistrate, the moment he is raised to the Bench, as by inspiration. Certain of their number have as good as told us this, and so impressed have we been that it has set us thinking whether a short way of settling the medical education question would not be to abolish all the colleges and schools, and simply move the Government to make additions to the Middlesex board every year as the public necessities called for new medical practitioners. This being so, we must apologise for the impertinence of suggesting that, as it is decreed that there shall be a fourth or fifth—we forget which it is—asylum for the insane in Middlesex, the entire novel enterprise of building a *hospital*, properly so-called, should be attempted, just to settle the economic question whether an institution specially designed for curative purposes would not, as we have so often contended, do incomparably more to save the ratepayers' money than the most commodious caravansera devoted to the safe custody and accommodation until death of as large a lot of mixed lunatics as can be decently crowded within its walls.

CEREBRO-SPINAL FEVER.

FOR the last few years the annual death-rate of the Nara Gaol has been unusually heavy. Nearly three-fourths of the deaths recorded every year have occurred during the cold season—from October to February. Dr. P. H. Dadachanjee has forwarded a pamphlet on this subject, pointing out the probable nature of the disease causing the excessive mortality. After examining the history of the epidemic, and inquiring into the causes, of which prominence was given to season, overcrowding, bad water-supply, unhealthy locality, and the hardships of gaol life, he discusses the symptoms, course, and treatment of the disease, and comes to the conclusion that it was cerebro-spinal fever, which generally occurred in two forms. In the rarer and more acute, usually called the explosive form (meningite foudroyante), the onset was very sudden, and the patient from the very first complained of intense general prostration. Intense headache, vertigo, and irrepressible vomiting of bilious matter, contracted pupils, bloodshot eyes, temperature about normal or not above 100·5°, pulse 130 to 150, and delirium, ending in coma and death in from thirty-six to forty-eight hours, were the chief symptoms. In the milder and more frequent form the disease ran a slower course. Rigors followed by headache, flushed face, and suffused conjunctivæ, with photophobia, were observed. There was some vomiting, pyrexia up to 103° and 105°, and delirium. In some cases the disease progressed slowly towards defervescence, so that convalescence began about the tenth day, though headache and occipital pain remained for some time. Rheumatic pains in the lower limbs, petechiæ, and spasmodic twitchings were observed occasionally. The death-rate was about 70 per cent. The necropsy showed signs of inflammation of the membranes of the brain and cord. In the explosive form intense congestion of membranes only was detected. In other cases lasting more than five days, lymph, not uniformly distributed, was discovered filling up the sulci between the convolutions, but usually more marked about the anterior lobe and base of the brain. In the spinal cord considerable exudation occupied the subarachnoid space.

THE PASTEUR COMMISSION.

THE Commission of Inquiry into the system carried out by M. Pasteur to prevent the development of hydrophobia, which has been appointed by the British Government, has now commenced its investigation. The Commission consists of Sir H. Roscoe, M.P., who moved for the appointment of the Commission in the House of Commons, Sir James Paget, F.R.S., Dr. Lauder Brunton, F.R.S., Dr. Burdon Sanderson, F.R.S., Dr. Quain, F.R.S., Principal Veterinary Surgeon G. Fleming, of the Army Veterinary Department, and Mr. Victor Horsley, F.R.C.S., of the Brown Institute, the latter acting as secretary to the Commission. Sir H. Roscoe, Drs. Brunton and Sanderson, and Mr. Horsley are now in Paris, and before long the British public may look forward to the issue of a report which will enable them to appreciate the value which properly attaches to the processes adopted by M. Pasteur. The composition of the Commission renders it quite unnecessary to indicate the nature of the evidence which should be sought for; but we may say that, so far, no reports which have come under our notice have given sufficient evidence that their compilers have eliminated the many sources of error which have to be dealt with before any trustworthy opinion can be expressed as to the methods carried out in Paris. An exhaustive and searching inquiry tending to such elimination is, above all things, that which is wanted.

A GALLANT DEATH.

UNDER the above heading a relative of the late Surgeon Joseph Heath, who fell during the operations in Upper Burmah, writes some interesting particulars to the *Newcastle Daily Leader*. Dr. Joseph Heath was well known and intimately connected with the North of England, and one of his last official acts before he went to India, and while stationed at York, was to go to Newcastle to inspect one of the city ambulance corps. The following account is given in the article above mentioned as to the particulars of his death. The Saignain Fort, of which Dr. Joseph Heath was in medical charge, having been repeatedly threatened by Dacoits, a force was, on Saturday, Jan. 9th, sent from Mandalay in a couple of river steamers to their relief. On account, however, of the shallowness of the water, the steamers could only land troops at a spot above the fort, about a mile; hence, on their arrival, a council of war was held to discuss plans of operation, and at its conclusion, about 4 P.M., Captain Smyth, Lieut. Armstrong, and Dr. Heath were ordered to proceed to the vessels, the mission of the latter being to consult about hospital carriage for the column. When about midway on their journey, the three were pounced upon by a couple of mounted Dacoits, armed with spears, and accompanied by fifteen or twenty followers on foot, armed with guns and dahs (swords). The Dacoits fired, and Lieut. Armstrong and Dr. Heath were wounded. Dr. Heath, however, kept the assailants at bay with his revolver, and then, managing to mount Lieut. Armstrong on his back, carried

him along until he fell mortally struck by a second shot. Captain Smyth (the only one who escaped scot free) had then the unspeakable grief of being obliged to leave Dr. Heath's side, but managed to drag Lieut. Armstrong along until the troops, hearing the firing, came to his assistance, and the Dacoits fled. The writer further says: "That the three were allowed to leave the fort unattended when the surrounding country was known to be swarming with Dacoits is to us an impenetrable mystery, though on Dr. Heath, as a non-combatant officer, no blame for this can possibly rest." Poor Lieut. Armstrong, who was severely wounded in the face, succumbed in a few days. But one of his first acts after arriving at the hospital was to write on a scrap of paper in reference to Dr. Heath: "He was killed carrying me on his back."

MAMMARY FUNCTIONS OF THE SKIN IN LYING-IN WOMEN.

THE breast may be regarded as a highly specialised sebaceous gland, or, at least, as a highly specialised cutaneous gland. It may have developed out of the indefinite blastema of the epiblast, either directly or through the intermediary stage of a sebaceous gland. The distinction made by Dr. Creighton at the discussion of Dr. Champneys' paper on Tuesday last, at the Royal Medical and Chirurgical Society, will, in view of deeper embryological considerations, appear to be of not great importance. For it is plain that the glandular structures to which he referred must have originated from epiblastic germs, as the sebaceous, sweat, and mammary glands have also done. That a sebaceous gland is also a miniature breast must be regarded as theoretically proven from a chemical standpoint. Milk is a chemical compound in certain proportions of albumen, fat, and sugar, and analysis of sebaceous matter also yields fat and a small proportion of proteid and carbohydrate. Dr. Champneys' most careful and detailed description of the "axillary lumps" forms the result of an equally sedulous research, which, so far as is known, is unprecedented, and therefore original in the true sense of the word. The lumps that he described as situate in the axilla may for all practical purposes be regarded as mammæ. Their evolution follows step by step that of the mammary glands in parturient women, and there are some grounds for believing that they may be the seat of similar pathological affections. Further, Dr. John Williams bore testimony to the effect that, like the breast, the axillary lumps may show changes during menstruation.

ALCOHOL IN COLONIAL HOSPITALS.

THE great discussion on the use of alcohol in hospitals, for patients or officials, has extended to the colonies, and grows warmer at home. We have no objection to offer to this state of matters, so long as it is conceded that medical men are to be the judges of the necessity for it in patients. Other officials of hospitals must come to such terms as the hospital authorities and they can agree on. We should approve of the offer of an equivalent in money to all nurses, servants, &c. But whether a patient is to have alcohol must be decided by the same authority that decides whether he is to have quinine or bromide of potassium. While stoutly maintaining this point, we would urge on all hospital physicians and surgeons, as we have on private practitioners, that the responsibility of the prescription is great. If a man who has been abstemious comes into a hospital and finds that a great medical authority orders him a pint of stout a day or a few ounces of brandy, he is very apt to continue the use of the same when he leaves the hospital, and to think he has medical sanction for it. *A fortiori*, this would be the case of a man who was not abstemious. There is one other reason, and it is a very strong one—viz., that the attention of a large section of the public is strongly directed to this question, and that the existence of something like harmony of practice is desirable. A correspondent in the *New Zealand Times* gives the following as the expenditure per in-patient of the hospitals named. The information has been taken from the report of the Newcastle Board, the *United Kingdom Alliance News*, the Report of the Melbourne Hospital, and the return forwarded to the Wellington Hospital Committee:—Wellington Hospital, 14*s.* 10¾*d.*; St. George's Hospital, London, 4*s.* 8¼*d.*; Middlesex Hospital, London, 4*s.* 2*d.*; Melbourne Hospital, 3*s.* 8*d.*; Liverpool Southern Hospital, 3*s.* 4*d.*; University Hospital, London, 2*s.* 7¼*d.*; Queen's Hospital, Birmingham, 2*s.* 1*d.*; Southland Hospital, 1*s.* 6½*d.*; Edinburgh Hospital, 1*s.* 5*d.*; Westminster Hospital, London, 1*s.* 1*d.*; Manchester Infirmary, 9½*d.*; Leeds Hospital, 7¼*d.* It will be gratifying to the English public to find that compared with New Zealand our English hospitals are extremely moderate. But the discrepancy between 4*s.* 8*d.* per head in St. George's Hospital and 1*s.* 1*d.* in the Westminster, or 7¼*d.* in the Leeds Infirmary, is unseemly, and unlike the uniformity of science which we ook for now in therapeutics. We are sure that English physicians will treat this subject as a grave one, from both a moral and scientific point of view.

MICRO-ORGANISMS IN TYPHOID.

AFTER examining microscopically the bowel, mesenteric glands, spleen, liver, kidneys, lungs, heart, and brain in fourteen typhoid fever cases, Dr. Mirles of St. Petersburg concludes that the short bacilli of Eberth and Koch may, with great confidence, be accepted as always present in this disease, but that, in addition to this type of bacillus, colonies of three kinds must also be reckoned as characteristic of typhoid: 1. Small colonies in the deep layers of the intestine and in the walls of the capillaries of the heart muscle. 2. Medium-sized colonies of comma form. 3. Large ones of map-like shape, found especially in the mesenteric glands, the spleen, and in the substance of cerebral hemispheres. The author is inclined to agree with Klebs that some relation exists between the symptoms observed during life and the organs in which micro-organisms are found. In one case, for instance, where there had been violent and prolonged delirium, numbers of colonies of various sizes were seen in sections of the cerebral convolutions. He thinks also that the early development of cardiac weakness in uncomplicated cases of typhoid depends upon the existence of micro-organisms in the heart muscle, which are gathered in small colonies in the capillaries, and he suggests that it is much to be desired that careful observations should be made in typhoid of the exact condition of the pulse and of the sounds of the heart.

EPILEPTICS IN WORKHOUSES.

IT is much to be regretted that when the agitation about the sick in workhouses issued in Hardy's Act the retention of epileptics in workhouses was not altogether prohibited. Manifestly, they form a class of patients for whose safety the most effective provision ought to be made. The epileptic fit comes on too suddenly to admit of any precaution being taken by the sufferer for his own safety, and the insensibility which ensues is so profound that, as a recent deplorable occurrence at Falmouth unhappily shows only too forcibly, the victim may fall with his face on a fire and be actually burnt to death in that position, without power to move and probably without consciousness. To leave persons who are known to be subject to such seizures without protection is simply an act of barbarism. Another sort of protection is needed for those epileptics who, in the intervals of their fits, either just before or immediately after them, are liable to

paroxysms of cerebral excitement, alternating with depression, in which they are prone to commit, with or without consciousness, deeds of violence to themselves or others. Obviously, persons afflicted with this terrible disease in either of its forms are not fit inmates for a workhouse. Nor, indeed, are they fit for an asylum for the insane. It would be sound policy, in an economic not less than a medical sense, to provide special institutions for epileptics in every county. Unhappily there are more than enough to fill a large building, which should be constructed and furnished with a particular view to their comfort, and, in such cases as admit of remedy, cure. We venture to think that good would result from the incentive to further efforts to grapple with this malady which would be created by the erection of hospitals for the reception of epileptics alone.

THE VOLUNTEER MEDICAL STAFF CORPS AT THE EASTER MANŒUVRES.

AT both Dover and Portsmouth the members of this corps took a prominent part during the march on Friday and Saturday and at the field-day on Monday. The main body of the corps went to Dover, where, under the direction of Surgeon H. R. O. Cross, Grenadier Guards, excellent opportunities were afforded for work. On Friday a section of a field hospital was pitched, dressing and collecting stations were formed, and stretcher-bearer parties sent in search of the wounded, &c. On Saturday the number of sick, owing to the heat and the long march, was very large. The five ambulance waggons were full, and the surgery waggons had to be used for sick transport. The cases met with were cardiac excitement, sunstroke, epileptiform seizures, diarrhœa, kicks from horses, blows from passing vehicles, and the like. A mule with litters on Friday and cacolets on Saturday did excellent work in reaching the top of the almost perpendicular downs. On Monday but few of the troops fell out, though one or two curious accidents occurred; amongst others, the impaction of a small pebble in the front of a man's thigh was the most odd. Dr. Hearn, Principal Medical Officer of Queensland, Australia, who was attached to the bearer company during the Easter manœuvres, extracted the pebble, which was lying at a depth of two inches from the surface. Three bearer companies marched past at Dover, with a mule and cacolets, five ambulance waggons, five water-carts, and two surgery waggons. The military critics pronounced the appearance of the corps to be smart and workman-like and the march past to be good. The Portsmouth company earned unqualified praise from all onlookers, both for its appearance and efficiency.

CHOLERA IN THE VENETIAN PROVINCE.

ROVIGO, Padua, and other districts of the Venetian province have for the last two years been visited with cholera of the Asiatic type, but only sporadically. That the disease has never acquired any great diffusion or intensity is ascribed by the sanitary authorities there to the vigilance with which they have put in practice the treatment recommended as long ago as 1836 by Dr. Namias of Venice, and carried out with unvarying success by Dr. Tunisi of Padua, in his capacity of medical officer with the Italian forces in the Crimea and in Sicily (*vide* THE LANCET, Oct. 10th, 1885, p. 694). That treatment, summarised in a few brief instructions by the Cavaliere Bianchi, prefect of Venice, and distributed throughout all the towns of the province, is, in substance, the following. Cholera has two periods, that of preliminary diarrhœa and that of the graver symptoms, vomiting, cramp, extinction of voice, suppression of urine, &c. The former is always curable, the latter rarely so. The moment cholera has appeared in a community, every family should be provided with a phial containing from ten to fifteen grammes of laudanum, of which, on the slightest suspicion of diarrhœa, fifteen or twenty drops should be taken every half-hour in a teaspoonful of water. After the fourth or fifth dose the diarrhœa either disappears or is so diminished that the dose may be reduced and taken at longer intervals. For adults the laudanum taken from first to last may amount to from four to six grammes. Of 200 cases of choleraic diarrhœa treated promptly in this way, Dr. Tunisi, during the cholera epidemic at Messina in 1867, did not lose one; while the only deaths occurred among those who did not apply the treatment till the preliminary stage had passed and the graver symptoms had set in. His little book "Cura Specifica del Cholera" (Vicenza, 1885) was widely distributed throughout Spain last year, and proved highly serviceable in the visited localities.

PERNICIOUS EFFECTS OF ILLEGAL DRUG-SELLING.

THE evils of "doctors dispensing" have frequently been pointed out, and general practitioners are ridiculed and looked down upon by their continental brethren for "keeping pharmacies." The plan has certain advantages, however, as may be seen by a paper in a Russian medical journal (*Russkaya Meditsina*, No. 13) by Dr. A. A. Okinchits, showing that in the provinces, even in the largest towns, people are in the habit of getting their doctors' prescriptions made up at "pharmaceutical stores," which are kept and worked by utterly unqualified persons, who may have served their apprenticeship to grocers or coal merchants, and are wholly ignorant of the nature and properties of the medicines they both prepare and dispense. This kind of dispensing is of course illegal, but the transgressors are so cautious and cunning that it is a very difficult matter to catch them. They frequently keep the more active drugs—that is, those which none but licensed pharmacists have the right to sell—labelled as totally different and innocuous substances, and so any police official who may come to inspect is led to suppose all is right; probably, too, a judicious "tip" would quickly remove his suspicions, even if aroused. Occasionally, however, some mistake occurs which cannot be entirely hushed up. A doctor having prescribed some sulphate of atropine for a patient to use as eye drops, and the prescription having been made up at one of these "pharmaceutical stores," kept by an unauthorised person, a child saw the lotion and drank it, but was none the worse, the fact being that the sham pharmacist, from motives either of knavery or ignorance, had sent plain water—as it happened, a very providential error. These illegal stores keep all the quacks and "witches," who practise on the credulity of the peasantry supplied with the powerful mercurial and other preparations they are accustomed to employ, so that they act as disseminators of poison to an incalculable extent, and it is time that some stringent methods for their suppression were resorted to.

THE PERIL AND PLAGUE OF NARCOTICS.

SCARCELY a week passes without some sad proof of the folly of a reckless or insufficiently careful use of narcotics. It is almost to be regretted that so many agents capable of producing mimic, or poisoned, sleep are known to the profession and to the public. It is now the exception, instead of the rule, to find a man or woman of middle age who is not more or less addicted to the abuse of morphia, chloral, bromide of potassium, or some one of the many sleep-inducers or pain-relievers which the nineteenth century has distinguished itself by evolving for the care and comfort of our less enduring and increasingly sensitive and excitable humanity. It is nothing to the purpose that the deleterious effects of these potent drugs, when taken habitually, even in

small quantities, have been again and again exposed. Practitioners have, as we do not scruple to insist in and out of season, much responsibility for the growing fashion of taking narcotics or anodynes by mouth or hypodermically. It is so pleasantly facile to prescribe a remedy which is sure to give present relief, whatever may happen in the future; and those who have learnt to purchase unconsciousness or ease at what seems to be a very small price are only too ready to renew the experience when any fresh cause of sleeplessness or pain arises. Sooner or later some strong measure will need to be taken with the view of arresting this really serious "habit" of taking sedatives, which is extending its influence and gaining strength year by year. Meanwhile, we do very earnestly counsel our readers to refrain from having recourse to these drugs themselves, and to use their authority with patients in condemnation of a demoralising and disastrous practice. The victims of the abuse must not simply be counted by those who die of it, but by those who are left to drag out miserable lives, the victims of "cravings" and nameless and numberless sufferings, which morphia, chloral, bromide—now cocaine—and a host of insidious poisons, are the active agents in producing.

TESTIMONIALS.

WE all know that there are testimonials and testimonials. There is the routine formula, which is apt to be given almost promiscuously to all applicants, and which comes to be appraised at its true value. In a recent discussion at Southampton it was proposed to alter a rule which prohibits the appointment of physicians and surgeons to the Royal South Hants Infirmary unless they have resided three years in the town. The motion was carried by a small majority, but not by the necessary majority of two-thirds. In the course of the discussion and in opposing the motion, Dr. Lake spoke very slightingly of testimonials. "Speaking of the worthlessness of testimonials," he said: "A man of the reputation of Sir William Fergusson would sign anything—his own death warrant. He had been known to sign testimonials which students had written themselves." The report is from the *Hampshire Advertiser*. We cannot but believe that Dr. Lake is in error in this particular statement. But there is undoubtedly room for much more care and discrimination in giving testimonials, which are often given to persons on very inadequate knowledge of character and career.

THE NIGUA IN MEXICO.

SOME researches by Señor Donaciano Cano y Alcacio on the Nigua are noticed in the April number of the Mexican journal *El Observador Médico*. This insect, which is popularly known under various names (chigoe, chique, sikka, tunga, pique, &c., and scientifically as Ryncoprion penetrans and Pulex penetrans), has been referred by different entomologists to the Aptera, Hemiptera, and Diptera, according to the characters of which each took special note. Señor Cano believes that it is the male insect only which by its growth under the skin gives rise to the troublesone lesions which are due to the nigua, and which are sometimes followed by phagedænic ulcer, gangrene, or tetanus. The prophylactic measures consist in cleanliness, seeing to one's boots, examining the feet at night, and avoiding localities known to be infested by the insect. For poor people who cannot get proper coverings for their feet, and who may be obliged to frequent the nigua's habitats, he advises a turpentine application to the feet. The only treatment is to remove the animal. For this a large blunted needle is required. Care must be taken not to rupture the abdomen, which is the largest and most superficial portion of the body. This is sometimes partially adherent to the skin, and if so a little dissection must be practised, as in the case of wens. Often, however, either by pressure or with a little manipulation with the blunt needle, the insect can be very easily dislodged. At the commencement of the operation a dark liquid is generally seen spirting out like a fine spray from the animal. This is due to the irritation causing it to act on the defensive. The liquid may probably be of a fæcal nature. Where purulent collections exist, the cavities should be carefully and frequently washed out with antiseptic and insecticide solutions. At the Mexico Military Hospital a 1 per 1000 sublimate solution is first employed, and afterwards strong solutions of boracic acid. When there is gangrene Señor Montes de Oca wraps the part up in calcined gypsum, which arrests the offensive odour, limits the gangrene, and prevents the absorption of septic matters by the healthy tissues. The natives employ tobacco applications to the sores after getting rid of the insect, but this is not in any way necessary, and is liable to cause considerable inconvenience.

RISKS OF INTERMITTENT WATER-SUPPLY.

THE dangers of the intermittent system of water-supply to houses is well illustrated by an event which recently happened in Marylebone, and of which Mr. Wynter Blyth gives account in his last report. When the water was turned off by the water company's officer, a vacuum was created in the water main, and a quantity of coal gas which had escaped from a leak in the gas pipe in the ground was sucked in; when the water was again turned on, coal gas was delivered into the house with the water. In houses where the ground becomes saturated with filth by defective drainage, it is probably of no uncommon occurrence for the water to be polluted in the mains by filth of this nature. Coal gas is easily detected, but it would be quite possible for more dangerous gases to enter the main without recognition. The risk is most easily avoided by the adoption of the constant system of supply, but even constant service must be occasionally interrupted when necessity arises for the repair of water mains. The provision of a stop-cock to every house would go far to obviate this danger.

THE HISTORY OF THE GENEVA CONVENTION.

AT its first meeting on April 19th, the President of the Third Congress of the Italian Surgical Association conferred on the senator, Professor Palasciano, on Dr. G. Mazzoni, assistant in clinical surgery, and on Dr. Di Fede, of the Military Hospital in Rome, the prizes for the memoirs presented by them on this subject, the competition for which was announced at a meeting of the Association in April, 1883. These memoirs are designed to revindicate for Italy the honour of having been the first to suggest the humanitarian movement in aid of the wounded in war, a movement which culminated in the international treaty known as the Geneva Convention. It was the deplorable condition of the wounded in the Crimean and Italian campaigns that impelled Palasciano to propose at a meeting of the Accademia Pontaniana at Naples on April 28th, 1861, that an international treaty should be concluded for neutralising the sick and wounded in war, and for augmenting, without limit, the sanitary *personnel*. In June of the same year Arrault recommended, instead, that the sanitary *personnel* only should be neutralised; and in 1862, Henri Dunant of Geneva, in his attractive book, "Un Souvenir de Solferino," proposed the creation of squadrons of hospital volunteers to reinforce the official sanitary staff. The Geneva Society of Public Utility started a conference apparently with the object of advocating the scheme of Dunant, but really with the result of making its own the humanitarian project of Palasciano. Hence it is that the Geneva Convention, in

consequence of the aforesaid conference and of a treaty negotiated through an International Congress, has come to be popularly considered as a Swiss creation. Round the name of Dunant has gathered a tradition, or rather legend, fostered by his compatriots, who have not failed to give special prominence to his work and to the Geneva Convention, whilst relegating to silence or insignificance the really initiatory part borne by the Italian surgeon. It is the merit of the above-mentioned memoirs, particularly those of Mazzoni and Di Fede, to have established by incontestable proofs the priority of Palasciano in the great international organisation on behalf of the sick and wounded soldier; and the publication of the two latter—which, it seems, supplement and reinforce each other—will, it is confidently hoped, bring the professional mind of Europe to the same conclusion with that of Italy, that it is to Italian initiation that humanity owes the inspiration and origin of the Geneva Convention.

CHOLERA IN EUROPE.

THE outbreak of cholera in Brindisi does not appear to be extending, but, on the contrary, the latest news is to the effect that it is rapidly diminishing, and that but few deaths have occurred from it. The only news of cholera during the past week has been that from Brindisi, and intelligence from other parts of Italy is to the effect that, with the exception of the northern portion of the Adriatic, the peninsula is quite free from the disease. In Naples special precautions are being taken, by way of cleansing and otherwise, to prevent any recurrence of cholera, and although some complaints are made as to the method of distribution of the new water-supply, yet great confidence is expressed that this excellent water offers a safeguard not heretofore experienced by the Neapolitans. We could, however, wish that cleanliness in the matter of drainage and sewerage were possible under existing circumstances, but so long as the present system continues the narrow thoroughfares in the lowest parts of the city must be offensive, and the bay in the vicinity of the shore must remain little better than a great offensive cesspool. No effort should be spared to secure such a system of drainage and of sewage disposal as will free Naples from these grave sources of nuisance and danger to health. The inhabitants of Sicily, forgetting their protests of last year, are again calling for protection by means of a rigid quarantine system, which can only isolate them from the mainland.

WHAT DOCTORS PRESCRIBE.

THE subscribers to the *Chemist and Druggist* have been asked to send to the editor 10,000 prescriptions. And one of the members of the editorial staff of that journal has set himself the task of arranging this motley mass of statistics into such a shape that certain, in a measure, interesting facts are brought prominently forward. According to this somewhat haphazard, and by no means, we should think, representative mode of collecting physicians' prescriptions, the conclusion may be drawn that the inhabitants of this sometime favoured isle suffer largely from diseases of the imagination. But the imagination is a function of the whole or some part of the nervous system. Hence a further deduction. This conclusion may not be a just inference, but the premisses on which it rests are these: Spirits of chloroform, sal volatile, glycerine, and syrup of orange-peel take high places, as drugs most frequently prescribed; to these we may add bromide of potassium, which ranks second only to chloroform. Most of these may be grouped under the heading "placeboes." Wine of ipecacuanha, sulphate of quinine, bicarbonate of soda, carbonate of ammonia, liquor ammoniæ acetatis, potassii bicarbonatis, and spiritûs ætheris nitrosi are the other members of the group of twelve drugs most frequently ordered. Several of these minister to the disorders of the respiratory tract, and the time of the year may have some influence on their use. But, as we said at the beginning, the information cannot be regarded as representative. If the statistics of some hospitals and dispensaries were taken, we believe that bicarbonate of soda, rhubarb, and gentian would exceed the other drugs in respect of frequency of prescription. Further, spirit of chloroform and syrup of orange-peel are mainly used as adjuncts.

A DEGREE-GIVING MEDICAL FACULTY UNCONNECTED WITH A UNIVERSITY.

IT has been assumed by the opponents of the scheme for constituting the combined Colleges of Physicians and Surgeons a medical faculty, with power to confer medical degrees, that such a faculty, standing by itself and unconnected with a more or less complete university, would be an anomaly, and that there is no precedent, on this side of the Atlantic at least, for the existence of a body having power to confer medical degrees apart from a university. This, however, is a mistake. One of the most flourishing medical schools in Europe precisely exemplifies this state of things. We refer to that of St. Petersburg, the title of which is the Imperial Military Medical Academy, and which is regulated by the Ministry of War, and has no connexion with the University of St. Petersburg, which, though very complete in other respects, entirely lacks a medical faculty. It must not be supposed that the Military Medical Academy merely supplies the place which the Netley School does in this country. It is complete in itself, and, moreover, has the power of conferring the titles of "Vrach" or Licensed Medical Practitioner and Doctor of Medicine. As in the medical faculties of the other Russian universities—Moscow, Kazan, Kharkoff, the St. Vladimir in Kieff, Warsaw, Dorpat, and the Alexander in Helsingfors,—all students have to pass the examination for the title of "Vrach"; and only those who do this with distinction are permitted, after a further period of study, to become a candidate for the Doctorate, for which an original dissertation has to be presented, implying a good deal of patient research. The points proved have to be publicly defended by the candidate against all comers. Several of these dissertations, which are all printed in the Russian language, are now before us. They state on the title-page that they are "for the degree of Doctor of Medicine," and they bear the certificate of approval of the "Conference of the Imperial Medical Academy," being signed by the "scientific secretary," no reference whatever being made to any university. It may be added that the entrance examination for admission to medical study or to any of the university faculties implies a considerable acquaintance with classics, mathematics, and modern languages. It is held at the gymnasia or public schools, and embraces the subjects taught in the final or eighth class, which is probably superior to the majority of English sixth forms.

DR. OTIS ON HEALTH-RESORTS.

DR. OTIS, of Boston, has lately read before the Suffolk District Medical Society an important paper on Health-resorts. He says at the outset that he is not a partisan of any special place as a universal elysium for those afflicted with lung troubles; each individual case should be fully studied and sent to a place which seems to meet its own special requirements. He is convinced that a long continuous residence in a climate which has been found to suit the case is what gives the best results. "It takes a long time to become acclimated if the change is at all radical," and after that comes the benefit. Dr. Otis has "almost come to the conclusion that no physician has any right to advise a

patient to this place or that unless he has first visited it himself and thoroughly investigated its advantages and defects." The southern resorts in the United States may be divided into those of the coast, interior, and mountains. Of the coast resorts, those in Florida are generally selected, and it is a matter of opinion whether the Atlantic or Gulf of Mexico shore is the more favourable. One fact he lays considerable stress upon is that it is exceedingly difficult to get good food in the south. In the discussion which followed, several speakers expressed their entire approval of Dr. Otis's warning as to the great importance of being thoroughly acquainted with a locality before advising the removal to it of a particular patient.

THE HAIR ROOTS AS INDICATORS OF BODILY OR MENTAL DISEASE.

DR. J. POHL-PINCUS, of Berlin, has recently, in a *brochure* entitled "Polarised Light as a means of recognising Irritable Conditions of the Nerves of the Scalp," announced that by an examination of the hair roots by polarised light peculiar changes may be observed whenever the patient suffers from physical irritation or mental excitement. This statement is the result of investigations which have now been going on for twenty-five years, and the later observations in the course of the research have uniformly confirmed those made earlier. The hair bulbs are divided into three groups, as follows:—Group A: If, in healthy conditions of the body and mind, the hairs that fall out daily are examined microscopically by polarised light, the enlarged bulbous end of the root will show a white contour, and a yellowish or brownish-red centre. Group B: In all irritable conditions of moderate grade, all painful conditions of any organ, also in emotional disturbances of moderate grade, without any apparent bodily disease, the bulbous end of the hair root increases in length and breadth (in proportion to the irritation), the central part appears under polarised light of a violet, blue, or bluish-green colour, separated from the white contour by bands of yellow and red. Group C: In higher grades of bodily disease or mental disturbance, the bulb becomes still larger, and the bluish centre changes to green, yellow, or orange. A few hairs of the B and C types are found in normal conditions, especially in those more advanced in life. Dr. Pincus gives thirty-one cases showing the effects of painful disease, but more especially of depressing emotions, upon the appearance of the hair root. The conclusion to be derived from these researches is that bodily disease or mental excitement causes circulatory disturbances, and in consequence a change in the normal nutrition and pigmentation of the hair. This is only in accordance with previous observation, and the chief merit of Dr. Pincus's plan lies in his obtaining a means by which very slight and temporary changes in tissue growth can be detected and approximately measured.

FOREIGN MEDICAL PROFESSORSHIPS.

DR. A. VOGEL, Professor of Special Pathology at Dorpat, is resigning on account of his health; he will, however, be able to continue to practise privately. Dr. F. Penzoldt, Extraordinary Professor in Erlangen, has been appointed to the Professorship of Pharmacology in the same university. It is stated that Professor Kussmaul, of Strasburg, contemplates resigning his chair and settling in Heidelburg. Professor Späth, who holds one of the obstetric chairs in Vienna, has applied for his pension.

A TELEGRAM from the Viceroy of India, dated April 27th, states that cholera has broken out amongst the troops at present engaged in Burmah. Fourteen deaths have already occurred, but all possible precautions are being taken to prevent the disease from spreading.

AT the Conversazione for which invitations have been issued by the President and Council of the Medical Society of London on Monday next, visitors will have the opportunity of inspecting the unrivalled collection of works by the great water-colour masters, which have been lent, by the kindness of Mr. James Orrock, for the occasion. Besides these there will be on view specimens from their galleries which have been sent for the occasion by the generosity of Messrs. Doulton. Various forms of electric lighting applicable to medical work will also be on view, and the proceedings are to be enlivened by the band of the Royal Artillery.

PROFESSOR V. FRISCH, of Vienna, who had recently returned from a visit to Paris, reported the results of his investigation into M. Pasteur's inoculation method to the Society of Physicians at Vienna. He said that M. Pasteur had unreservedly supplied him with every information, but owing to the prolonged period of incubation which often characterises hydrophobia, he held it to be premature at present to report definitely upon the utility of the practice. He also considered that the results should be controlled by experiments upon animals.

WE hear that Dr. Rolph Leslie, of the University of Toronto, Canada, and St. Thomas's Hospital, London, has been decorated with the Order of Leopold by the King of the Belgians for his services on the Upper Congo.

THE Council of University College, Cardiff, has presented a strongly supported memorial to the Lord President of the Council urging the desirability of establishing a medical faculty at Cardiff in connexion with the University College.

THE following members of Parliament are showing a great interest in the Charities Rating Exemption Bill:—Sir Julian Goldsmid, Sir Robt. Fowler, Messrs. Ernest Baggally, H. W. Lawson, O. V. Morgan, and Sir Algernon Borthwick.

La Gazzetta degli Ospitale (April 21st) reports a communication by Dr. Sacchi to the Medical Academy of Genoa on Tracheotomy in Croup. Of five children on whom he performed the operation, two survived.

PROFESSOR CORFIELD will commence his course of lectures on Hygiene and Public Health at University College by an introductory lecture on Tuesday, May 4th, at 4 P.M.

A RECENT law enacted in Georgia requires all preparations of morphine to be dispensed in scarlet paper with a scarlet label having the name of the contents in white letters.

THE eighth National Medical Congress of Italy, which was to have met from the 2nd to the 6th of May at Palermo, has been adjourned on account of quarantine.

THE death is announced of Dr. Thaon, of Nice, well known for his work on Tuberculosis. He was forty years of age.

EIGHTEEN persons were, on the 27th of March, at Leicester, fined 10*s.* each for neglecting to have their children vaccinated. For the same offence there are now in the same town about 14,000 summonses to issue, besides many thousand notices.

THE work of alteration at the Leeds Fever Hospital, commenced in August last, is now completed. Accommodation is provided for over 100 patients, the average number of inmates in the old premises having been for the first few years about 20.

INDIAN HEALTH STATISTICS.

No. I.

THE twenty-first Annual Report of the Sanitary Commissioner with the Government of India for the year 1884 gives the usual information regarding the health of the European and native armies, the gaols, and the civil population, with a statement of the expenditure on sanitary works, military and civil, during the year. In one respect, however, an important change has been made: the papers on scientific subjects, which formerly appeared as appendices to the report, have been omitted, as it is intended to publish them in future in a separate volume under the title of "Scientific Memoirs by Medical Officers of the Army of India." It is hoped that the establishment of such an annual volume will be appreciated by the profession, and will prove a stimulus to medical officers to carry out original investigations on subjects connected with their special work.

During the year 1884 the average strength of the European troops serving in India was 54,996. The admissions into hospital were in the ratio of 1513 per 1000, the deaths of 12·56, the invaliding to England of 31·74, and the constantly non-effective from sickness of 67·99. With the exception of the invaliding, these ratios are all higher than those of the preceding year, but the death-rate was still much below the average. The following table shows the incidence of sickness and mortality in each of the three Presidencies:—

—	Average strength.	Annual ratio per 1000 of strength.			
		Admitted into hospital.	Died in India.	Invalided to England.	Mean daily sick.
Bengal	33,486	1662	11·68	31·84	70·5
Madras	10,785	1109	8·53	31·32	57·5
Bombay ...	10,725	1455	19·39	31·36	65·5

In all the Presidencies there was an increase in the rate of admissions into hospital. In Madras there was a marked reduction in the deaths, which amounted only to 8·53 per 1000, or little more than 1 per 1000 above the average of infantry serving in the United Kingdom; there was a slight increase in the mortality in Bengal, and a very marked one in Bombay. The latter, however, was due to the high death-rate among the troops serving in Southern Afghanistan, averaging 1441 men, for if they are deducted the deaths in the remainder of the Bombay European Force were only in the ratio of 11·74 per 1000, or slightly above that of Bengal. The invaliding from Bombay was considerably less than in 1883. In Bengal and Bombay there was a marked increase, and in Madras a slight decrease in the mean daily sick. The increase in the admissions in all the Presidencies was chiefly in the class of fevers, but in Bombay also in venereal diseases, and of the latter there was likewise an increase, though much less marked, in Madras. The great excess of deaths in Bombay was caused by cholera, and there was an increase also in those by enteric fever and by violence; the decrease in the mortality of Madras was chiefly in enteric fever. The ratio of deaths by it during the year was 3·31 in Bengal, 1·07 in Madras, and 2·05 in Bombay. In Bengal the disease proved most fatal at Morar, Agra, Gwalior fortress, Dinapore, Lucknow, Meerut, Mooltan, Sialkot, and Rawalpindi; in the Bombay Command at Quetta, and in Madras at Secunderabad. At Bangalore 60 cases were returned, but with only one death—a circumstance which throws considerable doubt on the accuracy of the diagnosis of the cases. September and April were the months in which it was most prevalent, and January and February those in which the smallest number of cases occurred. The mortality was much greater, in proportion to the numbers serving, among the men under twenty-five than above that age, and during the first two years of service in India. It is worthy of note, however, that in 1884 the death-rate from enteric fever in the newly arrived regiments (during their first year of Indian service) was lower than in the army generally, in the proportion of 2·33 to 2·74 per 1000. It is stated that in the great majority of cases "no clue whatever can be found to the causation of the disease in any local insanitary conditions." At Sitapur the medical officer attributed it to the unsatisfactory state of the latrines, and this opinion appears to be confirmed by the fact that "after the proper glazed earthenware pans were supplied, the latrines became perfectly free from stench—in fact, from any smell; the health of the troops improved; there were no more admissions for enteric fever; and a very considerable decrease in the number of admissions for diseases of the digestive system."

Cholera did not prevail to any great extent among the European troops in 1884, the admissions having amounted only to 2·7 and the deaths to 1·95 per 1000 of the strength; the mortality in the three Presidencies respectively was—in Bengal 1·34 (or slightly above the ratio of the preceding year), in Madras 0·95, and in Bombay 4·85 per 1000 of the strength, the last being greatly in excess of the average of previous years. But this excess in the Bombay force occurred chiefly among the troops employed in Southern Afghanistan, for if they are omitted, the death-rate amounts only to 1·40 per 1000, or very little above that of Bengal. In a force of 1088 men marching in Southern Afghanistan, forty-nine cases with thirty-nine deaths were reported in the month of December, which gives a ratio of 45·04 and 35·84 per 1000 of the strength. The report does not furnish any details of this outbreak, or of the measures adopted to check it. In Bengal, Meerut was the station which suffered most, the cases having been twenty-nine with thirteen deaths in a force of 1682 men; Allahabad and Dinapore also had an undue proportion of cases.

Venereal diseases continue to be a source of much inefficiency in the army in India, the admissions having amounted in 1884 to 294 per 1000, considerably in excess of the average of previous years. The increase was shown in all the Presidencies, but was most marked in Bombay.

The most prevalent causes of invaliding from India are anæmia and debility, usually a consequence of fever, hepatic affections, phthisis, heart disease, and rheumatism.

The influence of age on the mortality of the European troops in India is shown to be as follows:—Death-rate under twenty-five, 11·06; from twenty-five to twenty-nine, 9·99; from thirty to thirty-four, 9·71; and thirty-five and upwards, 13·66. The excess in the younger ages is due entirely to two diseases—enteric fever and cholera; omitting these the ratios would run—6·45, 8·16, 9·58, and 12·67 per 1000 living at each age.

The death-rate of the officers in 1884 was 9·17 per 1000, or 3 per 1000 lower than in the preceding year. Among those of the British army it was 10·30, and of the Indian army 8·11, the difference being chiefly in deaths by accident and violence. That of the women was 17·50, being lower than in any year of the preceding decade; 10 per cent. of the deaths were caused by childbirth and abortion.

The average strength of the native army was 114,827; the admissions into hospital during the year were in the ratio of 1042, the deaths from all causes 12·22, the discharges by invaliding 20·62, and the mean daily sick 33·2 per 1000. The relative health of the native armies of the three Presidencies was as follows:—

	Ratio per 1000 of strength.		
	Admissions.	Total deaths.	Daily sick.
Bengal	1192	12·56	35·5
Madras	836	11·82	30·9
Bombay	1153	14·35	36·1

In all three Presidencies there was an increase in the admissions and mean daily sick, but a decrease in the deaths compared with the results for the preceding year. The excess of admissions in all was chiefly caused by the prevalence of fevers; in Bengal there was also an increase in dysentery, and in Bombay in respiratory diseases. Enteric fever furnished only 18 cases and 11 deaths in the whole army. There was a marked exemption from cholera, of which only 135 cases and 82 deaths occurred, being in the ratio of 1·7 and 0·71 per 1000 of the strength; half of the deaths and rather more than half of the cases occurred in the Madras force. There were 46 cases and 27 deaths at Secunderabad, and 16 with 4 deaths at Madras; in Bengal the greatest number of cases occurred at Dinapore, where there were 12, of which 5 died. The most fatal class of diseases in all the Presidencies is that of the respiratory system, which in Bombay gave rise to one-third of the total deaths.

The summary of the sanitary sheets of native troops

shows that a considerable amount of overcrowding exists, and that there is still much to be done in improving ventilation, water-supply, diet, and conservancy before the state of the army can be considered satisfactory.

NEGRO MORTALITY IN THE UNITED STATES.

IN Volume XI of the Report upon the last census in the United States, dealing with mortality and vital statistics, are to be found some interesting statistics bearing upon the mortality among the coloured population, mainly consisting of negroes. In the southern portion of the States the rate of mortality of the coloured population, amounting to nearly 7,000,000, is reported to have been equal to 17·28 per 1000; whereas the recorded deaths among the more than 43,000,000 of the white population of the States did not exceed 14·74 per 1000. There can be no doubt, and indeed it is freely and fully admitted by the census authorities, that these reported rates very considerably understate the true rates of mortality among the population of the United States, probably to the extent of nearly a third. It is further admitted that the deficiencies in the enumerator's returns of deaths are "greater for the coloured than for the white population," so that these figures do not fully indicate the excess of mortality among the negroes, although they show in equal numbers living 117 deaths among the coloured population to 100 among the whites. Taking twelve Southern States that contain the largest proportions of coloured population, it appears that the recorded death-rate was 14·04 among about 8,000,000 of white population, and 17·22 among rather more than 5,000,000 of coloured population; these figures give 122 deaths among the coloured population to 100 in an equal number of the white population. That even these figures very considerably understate the real excess of mortality among the coloured population may safely be inferred from the following facts. There are thirty-one cities in the United States in which civil registration of deaths is more or less completely affected, and in six of these so-called registration cities—namely, in Baltimore, New Orleans, Washington, Louisville, Richmond, and Charlestown—a very considerable coloured population was enumerated. The population of these six cities at the last census amounted to 933,038 persons, of whom 697,157 were white and 235,881 coloured. The facts given in a table in the Census Report show that the recorded death-rate in the census year 1879-80 was equal to 21·41 among the white and to 36·62 among the coloured population of those six cities. Thus the mortality among the coloured population was in the proportion of no less than 171 to 100 in an equal number of the white population. It is acknowledged that even in these so-called registration cities the record of deaths is by no means complete, and there is good cause to assume that the registration deficiency is greater among the coloured than the white population, from which it follows that even the 71 per cent. excess of mortality in the coloured population understates the real excess of mortality among the negroes residing in six of the largest cities of the southern States of America. It should be stated that the general mortality in these southern cities considerably exceeds that which prevails among the cities in the northern States, the result propably of climatic influence; but, sanitary condition (in the broadest sense of that term) being equal, it would be natural to expect that the effect of the southern climate would be more fatal to the white than to the coloured population. The above figures afford conclusive evidence of the defective sanitary condition of the negro population, especially in the southern cities. One of the main causes of the excess of mortality among the coloured population is stated to be the excessive rate of infant mortality that prevails therein. It is admitted that the facts available for calculating infant mortality in the United States are only less defective than are those from which the death-rates at all ages have to be calculated, but as regards the numbers of births and of deaths under one year of age the census report says, "The defects and errors tend to neutralise each other, since the greater the deficiency in the reports of deaths of infants, the greater also is the deficiency in the reports of births." A table in the report gives the rate of infant mortality measured by the proportion of deaths under one year to recorded births in certain sub-divisions of the United States, called Grand Groups. In six of these Grand Groups the relative proportions of infant mortality in the white and coloured populations are separately shown. It appears that the mean proportion of infant mortality in these six Grand Groups was as 188 in the coloured population to 100 in the white population. This certainly shows a still larger excess of mortality among the coloured population than any previous test, but as the proportion of excess in the coloured mortality in the thirty-one registration cities, at all ages, was 71 per cent., it is evident that the excess at other ages is not much less than that of the mortality in infancy. As regards the causation of the excess of mortality among the coloured population, it may well be imagined that, defective as is the mere record of the numbers of deaths in the United States, the information bearing upon the causes of death is still more untrustworthy. The tables given in the Census Report, moreover, bearing upon this branch of the subject, only give the relative proportions of deaths from the different causes to the otal deaths among the white and coloured populations; this comparison does not give sufficiently approximate indications of the rates of mortality from these diseases in the two populations to afford the means for trustworthy deductions. It may be noted, however, that the proportional numbers of deaths referred to scarlet fever, diphtheria, enteric fever, diarrhœal diseases, cancer and tumours, diseases of the nervous system, diseases of the circulatory system, and diseases of the urinary system are considerably larger in the white than in the coloured population; while, on the other hand, the proportional numbers of deaths from measles, malarial fever, venereal diseases, scrofula and tabes, consumption, pneumonia, affections connected with pregnancy, and accidents and injuries were considerably larger in the coloured than in the white population. It appears, therefore, as Dr. Billings states in his report, "that the coloured race is peculiarly liable to certain forms of disease, and is less liable than the white race to certain other forms of disease; but when we take into account the effects of climate and soil moisture, the great majority of the coloured population being in the south, it is hard to say whether the negro in this region under the same circumstances as the white would be shorter lived or not." Dr. Billings asserts that "in the rural districts the mortality of the negro is not excessive"—meaning, presumably, in comparison with the mortality of the white; but it must be borne in mind that he has admitted that the mortality statistics of rural districts are more defective than those of urban districts, and that the defect of the records is still greater among the coloured than among the white population. It may be fairly doubted, therefore, whether trustworthy means exist for testing the real excess of negro mortality in the rural districts. At the same time, it may readily be believed that it is in cities and towns where the negro is "brought into close contact with the evils and vices of civilisation that he dies so rapidly." Dr. Billings acknowledges the importance of the questions: "How far the excessive mortality in the coloured population is due directly to race characteristics—that is, to less vital force or capacity to resist disease and death; and how far it is due to the fact that the great mass of the coloured population is poor and ignorant, lives in the midst of unhealthy surroundings in the dampest and dirtiest parts of cities, has poor food, and is in other respects unusually exposed to well-recognised causes of disease." It is pointed out that the statistics of the negro population are in the main the statistics of a poor working-class population, and it is suggested that, if it were possible to show separately the mortality statistics of a similarly poor and ignorant class of the white population—the tenement-house population of the northern cities,—they would probably show an excess nearly equal to that in the coloured population. Whether this would prove to be the case or not, the marked excess in the mortality of the negro population is beyond question, and points conclusively to the unfavourable sanitary conditions under which this population lives, especially in the larger cities of the Southern States.

DEATH OF THE NORTH TYNE CENTENARIAN.—Mr. Joseph Saint, the North Tyne centenarian—mentioned last week in the letter of our Newcastle-on-Tyne correspondent—died on Tuesday at Chollerton, in his 103rd year; he had been confined to his bed only a fortnight.

THE EXHIBITION OF THE ROYAL ACADEMY OF ARTS.

THERE are very nearly 2000 works of art collected within the walls of the Academy this year, and one cannot refrain from the thought that in this time of depression there must necessarily be a large percentage of these which is destined to remain unsold. To have one's picture exhibited is to pass, but to dispose of it for a good round sum is to take honours, and at the present time the honours list must necessarily be small.

It would be out of our scope, even if the short survey which we have made permitted of it, to attempt any detailed criticism of the works exhibited. Our business is really confined to directing attention to such as, from one cause or another, are likely to prove of especial interest to the medical profession. But we cannot shut our eyes to the fact that there is a collection of great, perhaps unusual, worth to be seen this year.

The bronze statue which Sir F. Leighton exhibits, termed "The Sluggard," is a work of extreme originality and interest. A young male figure, of beautiful proportions, is indulging in that stretching of the limbs which is so recreative after fatigue, and the attitude assumed gives the artist ample scope for displaying his knowledge of human anatomy. The right lower extremity is firmly, perhaps a trifle too stiffly, planted on the ground, and forms, as it were, a pedestal, allowing free and graceful play to the muscles of the other limbs. The work is very remarkable, and will deserve most careful study.

In portraits of members of our profession the exhibition is unusually prolific. An admirable likeness of Dr. Wilks, by Miss Emily Merrick, meets us in the first room, where also is one of Mr. T. A. Rogers. Mr. Ouless has been busy amongst us this year. He sends the portrait of Sir Henry Pitman, which was unveiled at the last Comitia of the Royal College of Physicians; and in the third gallery, one of Dr. Burdon Sanderson, presented by his personal and scientific friends. This is a good study of a fine head, not perhaps everything that could be wished as a mere likeness, but an admirably suggestive portrait, which is better than a startling likeness. In Gallery No. 11 Professor Humphry appears—another excellent portrait, which has been painted by Mr. Ouless. We are not so much pleased with the portrait of Dr. Hermann Weber, by Mr. Burgess; that admirable artist has not, we think, been quite so successful in picturing the power as he has in rendering the amiability of his sitter's face. Surgeon-General Longmore, C.B., lecturing to a class on some ophthalmic subject, is a pleasant portrait, by Mr. George Reid. There are also portraits of Mr. Clinton Dent, by Mr. Wirgman; of Dr. Frankish, by Mr. Dampier May, the latter well painted and true; nor must we forget that of Brigade-Surgeon Wallace, by Mr. Hacker. In the department of sculpture we find a marble bust of the late Mr. W. C. Worthington, a well-known provincial practitioner, by Mr. Roscoe Mullins; and a large statue of the late Sir Erasmus Wilson, which is to be executed in bronze and erected in front of the Sea-bathing Infirmary at Margate. In the same department is a marble bust of Sir James Paget by Mr. Boehm, and a plaster cast of the statue of John Hunter presented by the Queen to Oxford University Museum; this is by Mr. Richard Pinker.

The members of our profession who from time to time out of their scanty leisure have contributed as amateurs to the Exhibition are this year not represented. But we note with much pleasure a charming bit of still life—a vase containing daffodils against a background of tapestry—the work of Miss Edith Brinton. Those who remember the late Dr. Brinton, the brilliant physician whose early death so many friends have mourned, will see with interest that the artistic talent of the father lives again and is full of bright promise for the future of his daughter.

THE annual meeting of the supporters of the Herts Seaside Convalescent Home was held at Watford on the 16th ult., when a highly satisfactory report was presented.

THE people of Gateshead propose to establish a Children's Hospital in commemoration of Her Majesty's jubilee.

AMERICAN PUBLIC HEALTH ASSOCIATION.

THE fourteenth annual meeting of the American Public Health Association is to be held at Toronto on Oct. 5th to 8th. The following topics have been selected by the executive committee for discussion: (1) The disposal of the refuse matters of cities and towns; (2) the condition of stored water-supplies, and their relation to the public health; (3) the best methods and the apparatus necessary for the teaching of hygiene in the public schools, as well as the means for securing uniformity in such instruction; (4) recent sanitary experiences in connexion with the exclusion and suppression of epidemic disease. Mr. Henry Lomb, who last year offered prizes for the best essays on sanitary subjects, offers for the present year 1750 dollars to be awarded as prizes on the following subjects: (1) The sanitary conditions and necessities of school-houses and school life; (2) the preventable causes of disease, injury, and death in American manufactories and workshops, and the best means and appliances for preventing and avoiding them; (3) plans for dwelling-houses—(*a*) the cost not to exceed 800 dollars; (*b*) the cost not to exceed 1600 dollars. The local committee of arrangements at Toronto have already actively begun the work essential to a large and successful meeting.

WILLS OF MEDICAL MEN.

THE will and codicil of Mr. John Moulden Burton, surgeon, late of Lee-park Lodge, Blackheath, who died on Feb. 10th last, were proved on March 23rd by Mr. Mark Noble Buttanshaw, and Mr. Herbert Campbell Burton, M.R.C.S., and Mr. George William Burton, the sons, the executors, the value of the personal estate amounting to upwards of £35,000. The testator bequeaths £500 and his furniture and household effects to his wife; his surgical instruments to his son, Herbert Campbell; and legacies to his coachman and another. The residue of his real and personal estate is to be held upon trust to pay the whole income to his wife for life; at her death various legacies are given to his children; and the ultimate residue is to be divided between all his children.

The will and codicil of George Kitching, M.D., late of Enfield, Middlesex, who died on Feb. 2nd last, were proved on March 17th by Mr. Albert George Kitching, M.P., the son, the acting executor, the value of the personal estate amounting to over £19,000. The testator leaves all his real and personal estate upon trust for his wife, Mrs. Mary Ann Kitching, for life; and at her death to and upon trust for his said son.

The will and codicil of Sigismund Sutro, M.D., late of No. 37A, Finsbury-square, who died on Feb. 19th last, were proved on March 17th by Mrs. Helena Sutro, the widow, and Mr. Maurice Gerstley, the executors, the value of the personal estate exceeding £17,000. The testator bequeaths his furniture and effects and £100 to his wife; £1000 to each of his sons; £100 to the German Hospital, Dalston; £1000 upon trust for his brother Max for life; and a complimentary legacy to his executor, Mr. Gerstley. The residue of his real and personal estate he leaves upon trust for his wife for life; at her death he gives a further legacy of £1000 to each of his sons; and the ultimate residue is to be divided between all his children.

The will of Mr. Henry Strangways Hounsell, of Woodlands, Torquay, physician, who died on Feb. 22nd last, was proved on March 15th by Mrs. Emma Nathalie Hounsell, the widow, one of the executors, the value of the personal estate amounting to over £6000. The testator leaves all his real and personal estate upon trust for his wife for life, and then for his two children.

The will and codicil of John White, M.D., of Bath, who died on Feb. 6th last, was proved on March 25th by the Rev. Bedford Hartnell and Mr. Henry Kinneir, the executors, the value of the personal estate amounting to nearly £5000. The testator bequeaths his furniture, plate, pictures, household effects, surgical and medical books and instruments, horses and carriages, to his son William Acramen White; and an annuity of £70 to the Rev. George Hillhouse Helling for life, to be continued to his wife Charlotte if she survive him. The residue of his real and personal estate is to be

held upon trust for his said son for life and then for his children.

The will of Mr. Charles Milne, surgeon, of 161, Brixton-hill, who died on Dec. 13th last, was proved on March 29th by Mrs. Elizabeth Milne, the widow and sole executrix, to whom he gives, devises, and bequeaths all his estate and effects, real and personal, for her own use and benefit absolutely. The value of the personal estate exceeds £1300.

The will of Mr. James Henry Brooks, surgeon, of Henley-on-Thames, who died on Jan. 24th last, was proved at the Oxford District Registry on March 30th by Mr. Bransby Brooks, the son, the value of the personal estate being under £1000. The testator, in the events which have happened, leaves all his property, real and personal, to his children.

The will and two codicils of Mr. John MacDonogh, late of No. 15, Clapham-park-road, surgeon, who died on Jan. 9th last, have been proved by Mr. John Frederick Henry Betts, and Mrs. Catherine Jane Betts and Mrs. Annie Emily Mills, the daughters, the acting executors. The testator bequeaths his personal estate to his children. All his freehold lands and hereditaments in the county of Sligo he leaves upon trust for his sister Eliza for life; and then, subject to the payment of £100 to each of his other children, to his son Augustus William.

The following legacies have recently been left to hospitals and other charitable institutions:—Mr. John Field Swinburn, J.P., of Stone Hall, Acocks-green, Worcestershire, three-twentieths of the residue of his property to his trustees to divide in such proportions among such of the hospitals in Birmingham or elsewhere, and such of the schools and churches in Birmingham or elsewhere connected with the Established Church, as they in their discretion shall select as recipients.—Mrs. Harriett Annie Richardson, late of No. 7, Campden-hill-road, Kensington, £1000 to the Hospital of St. John of Jerusalem and St. Elizabeth, 47, Ormond-street, and £30 to the Hospital for Incurables of St. John of God, Seoxton Catterick, Yorkshire.—Miss Frances Caroline Churchill, of Colliton House, Dorchester, £200 to the Dorset County Hospital.—Mr. John Dennison Hargreaves, of Woodlands, Staffordshire, £300 to the Royal Hospital for Incurables.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Recurrence of Enteric Fever in Kidderminster, by Dr. FRANKLIN PARSONS.—The recurrence of enteric fever in Kidderminster led to Dr. Parsons being again instructed to visit and report upon the state of the borough in connexion with this disease. Between August and December, 1884, the estimated number of attacks was 1500, and there were 108 fatal cases. In the first quarter of 1885 the disease had greatly subsided; there were only 3 deaths, and of these 2 were of persons whose illness probably commenced in the previous quarter. In the latter half of 1885 the disease tended again to increase, 35 cases, with 11 deaths, being reported, multiple cases occurring in some houses. The cases were found to have been scattered about the town, with occasional clusters in certain localities. At most of these places sanitary defects were found, more especially house-drains badly trapped and unventilated, or otherwise in bad order; but these defects were at once remedied. Inquiry into the cause of this recurrence failed to associate it with the use of any contaminated milk, and no sufficient grounds have been found for regarding the disease as due to any contamination of the town water at its source. There are, however, intermissions in the supply which are suggestive of danger; and Dr. Parsons gives an instance of this in the house of a medical man whose family have suffered severely, and this notwithstanding the fact that the alterations carried out in connexion with the house-drainage had aimed at securing his dwelling from further danger from without. Dr. Parsons enters into some detail as to the action of the Corporation since the preceding outbreak. The provision of a new water-supply in place of the lower well had been, it was generally understood, decided on; and it will be with some regret that many will learn that this scheme has been abandoned, partly for financial reasons, and partly because it was believed that the well had been made water-tight by a concrete stopping, so that leakage was impossible. The circumstances associated with this lower well were such as to cause some anxiety, and for this reason, rather than because of proof of the fever having been due to any contamination of the general water-service, we should have been glad to learn that all risk had been finally avoided. At this stage Dr. Parsons refers to a joint report which he has made with Mr. Arnold Taylor of the Engineering Department of the Local Government Board; but the latter report does not appear to have been published, and the public are therefore somewhat in the dark as to the value of the concrete lining of this well. The Corporation will, by the provision of a new reservoir, get rid of much of the danger attendant on intermissions in the water-service; several of the main sewers have been relaid; automatic flush tanks and means of ample ventilation have been, and are being, applied to the sewers, and the old catchpits in the course of the sewers have been done away with. A new pattern of ventilator has been tried. It is furnished with a contrivance intended to deodorise the sewer air. This consists of a sieve of asbestos fibre inserted over the opening of the shaft, and dipping at the edge into an annular trough containing a solution of a permanganate. There are two of these sieves, one above the other, and the intention is that the permanganate solution shall rise by capillary attraction and be distributed over the sieves, and that the sewer air in passing between the meshes shall come in contact with it and be deodorised. As a matter of fact, it was found that the red colour of the undecomposed permanganate did not extend more than an inch from the margin of the sieve. Whatever the value of this deodorising contrivance, the arrangement will probably do more harm than good if it hinders the free passage of fresh air into the sewers. Other works have been carried out, since 1884, in connexion with the removal of the nuisances attendant on the midden-privies, but there are other matters which still remain to be adopted. Altogether, the Corporation may be credited with having evinced the desire to remove conditions associated with the serious epidemic of 1884, and the recrudescence in the autumn of 1885 may possibly have been nothing more than such seasonal reappearance of heretofore dormant infection, such as might have been anticipated after an epidemic like that Kidderminster suffered from in the previous autumn.

Diphtheria in the Registration District of Mansfield, by Dr. GRESSWELL.—This is a very elaborate report, embodying a description of the sanitary condition of the towns and villages in the registration district in question, as also an account of the prevalence of diphtheria in them. This disease has somewhat persistently prevailed since 1856 in several portions of the district, and notably in the parishes of Mansfield and Sutton-in-Ashfield, which together embrace more than one-half of the population of the district; and there have been a number of deaths from diseases under the names of which diphtheria, when its existence is as yet hardly suspected, is very apt to be registered. Dr. Parsons had already reported on Sutton-in-Ashfield in 1883, and the total diphtheria deaths during 1882-84 were ninety-eight in number. The disease was found to have been spread by the agency of schools and by means of children congregating in large numbers—even fifty at a time—at funerals and around the houses of former school-fellows who had died of the disease. In fact, as originally pointed out by Dr. Parsons, there had been unrestricted personal communication between healthy and sick, and the chief industry of the place—i.e., the manufacture of stocking hose—afforded peculiar facilities for the transference from family to family of any current infection. Under these circumstances, it necessarily became difficult to say how far the unwholesome conditions under which the people were found to be living, and which are described in detail, co-operated in the production and the diffusion of the infection. But, in addition to this, Dr. Gresswell brings forward a group of cases tending to support the view he has before expressed, to the effect that persons living under the sanitary circumstances he has detailed are liable, after an attack of diphtheria, to suffer almost constantly from a chronic inflammation of the tonsils, and are peculiarly liable to reacquire or to redevelop genuine diphtheria. Neither in Sutton nor in Hucknall-under-Huthwaite, where a prevalence of diphtheria occurred, were any proper arrangements made

by the sanitary authority to secure the isolation of the sick. In the rural district of Mansfield most of the diphtheria which has occurred during recent years would appear to have been related, directly or indirectly, to cases in Sutton or in Mansfield, the two chief centres for markets and fairs; and facts were readily forthcoming in illustration of the influence which intercourse with infected persons had had upon the spread of the disease. It is also worth noting that during the period under discussion there was a very general prevalence of sore-throat in the rural sanitary district of Mansfield, concurrent with, and likely enough antecedent to, the diphtheria in Sutton, the disease being variously styled "simple sore-throat," "follicular tonsillitis," and "diphtheritic sore-throat." The malady was associated with a good deal of prostration in those affected, and by some of the medical practitioners it was regarded as infectious. It is not clear what was the relation between this sore-throat prevalence and the diphtheria; but a considerable proportion of those cases which have been recognised as being diphtheritic in the rural sanitary district appear to have been traceable to antecedent cases of the throat affection in Sutton or in Mansfield.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5598 births and 3456 deaths were registered during the week ending April 24th. The annual death-rate in these towns, which had been equal to 20·1 and 20·3 per 1000 in the preceding two weeks, declined last week to 19·8, and was lower than in any previous week of this year. During the first three weeks of the current quarter the death-rate in these towns averaged 20·1 per 1000, against 24·1, the mean rate in the corresponding quarters of the ten years 1876-85. The lowest rates in these towns last week were 12·3 in Hull, 13·8 in Leicester, 14·6 in Bristol, and 15·3 in Birkenhead. The rates in the other towns ranged upwards to 26·3 in Bolton and in Manchester, 27·8 in Blackburn, and 34·5 in Preston. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 363 and 367 in the preceding two weeks, further rose last week to 382; they included 155 from whooping-cough, 114 from measles, 33 from diarrhœa, 30 from diphtheria, 23 from "fever" (principally enteric), 25 from scarlet fever, and 2 from small-pox. No death from any of these zymotic diseases was recorded last week in Halifax, whereas they caused the highest death-rates in Preston, Plymouth, Bolton, and Portsmouth. The greatest mortality from whooping-cough occurred in Manchester, Plymouth, Bolton, and Portsmouth; and from measles in Plymouth, Preston, Bolton, Blackburn, and Portsmouth. The deaths from diphtheria in the twenty-eight towns included 16 in London, 2 in Wolverhampton, 2 in Birkenhead, 2 in Bolton, 2 in Oldham, and 2 in Cardiff. Small-pox caused 6 deaths among the residents of London and its outer ring, 1 in Birkenhead, and not one in any of the twenty-six other large provincial towns. The number of small-pox patients in the metropolitan asylum hospitals situated in and around London, which had increased in the preceding three weeks from 8 to 16, further rose last week to 17; 6 new cases were admitted to these hospitals during the week, against 3 and 6 in the previous two weeks. The Highgate Small-pox Hospital contained 2 patients on Saturday last, one case having been admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had been 348 and 362 in the preceding two weeks, declined last week to 318, and were 97 below the corrected weekly average. The causes of 74, or 2·1 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bradford, Sunderland, Portsmouth, Brighton, and in four other smaller towns. The largest proportions of uncertified deaths were registered in Halifax, Oldham, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had steadily declined in the preceding five weeks from 27·9 to 20·5, was 20·7 in the week ending April 24th, and exceeded by 0·9 the mean rate during the same week in the twenty-eight English towns. The rates in the Scotch towns last week ranged from 13·1 in Perth and 13·9 in Paisley, to 22·1 in Aberdeen and 25·0 in Glasgow. The 511 deaths in the eight towns showed an increase of 4 upon the number in the previous week, and included 15 which were referred to whooping-cough, 9 to measles, 9 to diarrhœa, 5 to "fever" (typhus, enteric, or simple), 5 to diphtheria, 3 to scarlet fever, and not one to small-pox; in all, 46 deaths resulted from these principal zymotic diseases, against numbers declining from 62 to 34 in the preceding four weeks. These 46 deaths were equal to an annual rate of 1·9 per 1000, which was 0·3 below the mean rate from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had declined in the four previous weeks from 29 to 10, rose again last week to 10, of which 14 occurred in Glasgow. The 9 fatal cases of measles showed a further increase upon recent weekly numbers, and included 4 in Edinburgh and 4 in Leith. The 9 attributed to diarrhœa, on the other hand, corresponded with the number in the previous week, and were 5 below the number in the corresponding week of last year. The 5 deaths referred to "fever," including 2 in Glasgow, showed an increase of one upon the number in each of the previous two weeks. Of the 5 deaths from diphtheria 3 occurred in Glasgow and 2 in Edinburgh, and all the 3 fatal cases of scarlet fever were returned in Glasgow. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 109 and 122 in the preceding two weeks, declined last week to 100, and were 18 below the number returned in the corresponding week of last year. The causes of 63, or 12 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had steadily declined in the preceding five weeks from 40·5 to 25·0 per 1000, rose again to 27·3 in the week ending April 24th. During the first three weeks of the current quarter the death-rate in the city averaged 28·4 per 1000; the mean rate during the same period did not exceed 19·3 in London and 17·6 in Edinburgh. The 185 deaths in Dublin last week showed an increase of 15 upon the number in the previous week, but included only 8 which were referred to the principal zymotic diseases, against 16 in each of the previous two weeks; 4 resulted from whooping-cough, 3 from "fever," 1 from diarrhœa, and not one either from small-pox, measles, scarlet fever, or diphtheria. These 8 deaths were equal to an annual rate of 1·2 per 1000, the rates from the same diseases being 2·4 in London and 1·8 in Edinburgh. The fatal cases of whooping-cough, which had declined in the four previous weeks from 12 to 5, further fell last week to 4. The 3 deaths referred to "fever" corresponded with the number in each of the previous two weeks. Only one death was attributed to diarrhœa, against 3 in the previous week. Five inquest cases and 2 deaths from violence were registered; and 78, or considerably more than a third, of the deaths were recorded in public institutions. The deaths of infants were fewer than in any recent week, while those of elderly persons showed an increase upon the low number in the previous week. The causes of 20, or nearly 11 per cent., of the deaths registered during the week were not certified.

THE SERVICES.

ADMIRALTY.—The following appointments have been made:—Fleet Surgeon George Campbell, to the *Euphrates*; and Staff Surgeon Robert Bentham, to Chatham Hospital, temporary; Surgeon Samuel Keays, to the *Royal Adelaide*.

YEOMANRY CAVALRY.—Derbyshire: Surgeon Frederick W. Wright resigns his commission.

ARTILLERY VOLUNTEERS.—1st Devonshire: Acting Surgeon E. J. Domville resigns his appointment.—1st Lincolnshire: Surgeon Thomas Newby, M.D., is granted the honorary rank of Surgeon-Major.—2nd East Riding of Yorkshire: William Barter, Gent., M.D., to be Acting Surgeon.—1st North Riding of Yorkshire: Acting Surgeon Geo. Pilkington resigns his appointment.

RIFLE VOLUNTEERS.—4th Volunteer Battalion, the Devonshire Regiment: Surgeon Joseph Harper is granted the honorary rank of Surgeon-Major.—1st Durham: Surgeon S. W. Broadbent is granted the honorary rank of Surgeon-Major.—3rd Durham (the Sunderland): Acting Surgeon R. J. Collie, M.D., to be Surgeon.—1st Volunteer Battalion, the

Prince of Wales's (North Staffordshire Regiment): Surgeon W. Dawes is granted the honorary rank of Surgeon-Major.

VOLUNTEER MEDICAL STAFF CORPS.—Surgeon W. H. Platt is granted the honorary rank of Surgeon-Major; Richd. James Reece, Gent., to be Surgeon.

Correspondence.

"Audi alteram partem."

THE EXAMINATION IN MATERIA MEDICA AT THE ENGLISH CONJOINT BOARD.

To the Editor of THE LANCET.

SIR,—That the Royal Colleges of Physicians and Surgeons should have limited their demands from candidates for examination in materia medica is a change which is in accordance with the almost unanimous opinion of those who have formed any opinion on the subject; but a careful study of the synopsis and schedule for the first combined examination, issued on the 11th ult., yields some results which are rather astonishing.

The principle of scheduling the more important drugs is excellent, and the limitation of the practical part of the examination is also good; but the details are surely open to criticism. There are only twenty drugs in the whole Pharmacopœia with the physical properties of which the candidate is expected to show practical familiarity. A medical student who is unable to recognise, for instance, any preparation of ammonium, sodium, or potassium (saving only the permanganate), who cannot identify nitrate of silver, or any salt of iron, or nitrous ether, quassia, glycerine, tannic acid, gallic acid, camphor, turpentine, nitrite of amyl, cantharides, or cod-liver oil, need have no fear, it would seem, of failing to pass a practical examination in materia medica at the new Examination Hall. He must be aware of the dose and use of quassia, but not necessarily of those of gentian or calumba. He is excused any knowledge of the appearance, dose, or use of nitrate of potassium, podophyllin, copaiba, creasote, cubebs, santonin, pepsin, croton oil, or even castor oil. He must recognise the chlorides of mercury, and have theoretical acquaintance with its oxides and iodides (although only one iodide is now officinal); but he is no longer required to give any account of "blue pill," "blue ointment," or "grey powder" (unless these are supposed to be included under oxides of mercury). The white precipitate and the nitrate would also be beyond his ken.

The gratitude of the students will be unbounded. Such are some of the results of the combined wisdom of the two learned Colleges. It was open to them to ask for a really useful practical acquaintance with the Pharmacopœia of every-day practice, or, on the other hand, to omit all practical examination. For either of these courses something might be said, but what can be urged in favour of the present arrangement it is difficult to see. It can scarcely be expected to be permanent.

During the last few years the staff of each medical school has had to make an almost annual rearrangement of the curriculum to meet the continual variations in the demands of licensing bodies, but we should count the labour light if it were possible to perceive a steady approximation to a settled and satisfactory system.

I am, Sir, yours obediently,

JOHN B. HELLIER, M.D. Lond.,
Lecturer on Materia Medica and Therapeutics in the Yorkshire College.

Leeds, April 24th, 1886.

THE PRIZE SYSTEM.

To the Editor of THE LANCET.

SIR,—Your columns announce earlier than usual the attractions the medical schools have for students. Prizes and exhibitions appear in great numbers. I send you an extract from the evidence given by Sir Benjamin Brodie before the commissioners appointed to inquire into the regulations affecting the sanitary condition of the army, upon being asked what he thought as to giving prizes to medical students. Few teachers had more experience of the question of medical education. It would be interesting to know the opinions of the present race of medical teachers, and whether there are any records of the comparison between those who pass their examinations and those who are "referred" as to being prizemen. Sir Benjamin says:—

"I have much doubt myself about giving competitive prizes in examinations. It may work well in schools and colleges, but when you come to professional examinations (I do not speak about the Civil Service) I do not think that competitive prizes will answer; for, after all, they will be obtained chiefly by those who are crammed, by the men of good memories, and not by those who work. It seems to me that the man who thinks will not have the advantage that he ought to have. I would limit the prizes to one class founded upon cases. I believe the ordinary prizes do very little good. For some time past the teachers in the medical schools have been in the habit of giving prizes to students, yet, notwithstanding this, they are found to be not so well qualified for examination at the College of Surgeons as they were twenty years ago; and hospital surgeons and teachers are now satisfied that these prizes do no good; nay, more than that, that the best men do not get them. These prizes operate in this manner: a man wants a prize; he gets books, reads up the subject, and this kind of work keeps him out of the dissecting-room and the wards of the hospital. Yet these are the only places where he can get knowledge that he can apply to practice, and learn to observe and think."

I am, Sir, yours &c.,

April, 1886. F.R.C.S.

MR. KNOWSLEY THORNTON'S CASES OF SPLENECTOMY.

To the Editor of THE LANCET.

SIR,—Four years ago, when by your indulgence I presumed in the pages of THE LANCET to condemn splenectomy in leucocythæmia as a "useless and deadly experiment," and at the same time published the records of twenty-nine cases in which the operation had been performed in different parts of the world (during a period of 333 years), and called attention to what up to that date appears to have escaped the notice of operators, the "fearful fatality" of the measure in leucocythæmia, testified to by the fact that "whereas out of thirteen splenectomies in which leucocythæmia was absent no less than eight recoveries were recorded, out of the sixteen in which the latter disease was present there was no instance in which the patient recovered even from the primary effects of the operation"; and when I was also indiscreet enough to regard the operation as altogether unjustifiable in the light of these statistics, and to employ arguments to this effect in reply to a leading surgeon, who took me to task for my rashness,—I regret to say that no high surgical authority then came forward to support my too feeble voice. Although the leading surgeon above referred to did not perform splenectomy in the case of leucocythæmia then under his care, which at first he thought of doing, and although several eminent gentlemen expressed doubts as to the use of the operation in leucocythæmia in the discussion that followed Mr. Warrington Haward's case of splenectomy read before the Clinical Society (*vide* THE LANCET, April 1st, 1882), and Mr. Haward himself declared, in speaking of his case, that he should not have consented to operate had the newly published statistics been then before him, still it is only within the last few days that splenectomy has been distinctly condemned as unjustifiable in leucocythæmia by an authority of Mr. Knowsley Thornton's standing.

But what additional evidence have we obtained since February, 1882? Six splenectomies have been recorded during the four years which have intervened since that date. Out of these, five have been performed for diseases of the spleen, unassociated with leucocythæmia (Knowsley Thornton two, one recovered, one died; Billroth, of Vienna, one, recovered; Spanton one, died; Credé, of Dresden, one, recovered), two of which died and three recovered; and one for leucocythæmia (by Franzolini, of Turin), which, contrary to the assertion of Mr. Knowsley Thornton, who recently stated at the Medical and Chirurgical Society "that all the cases in which leukæmia was present were fatal," recovered, and four months afterwards the leucocythæmia, which had gradually subsided since the operation, had entirely disappeared.

Now, although these cases by no means strengthen the position I assumed on this question four years ago, I think I may fairly congratulate myself that I am not now alone in the opinion which I still entertain.

I am, Sir, yours faithfully,

Yarmouth, April 23rd, 1886. H. COLLIER, M.D. (Brux.)

INTRA-UTERINE AMPUTATION, WITH OTHER DEFICIENCY OF PARTS.

To the Editor of THE LANCET.

SIR,—Having been in harness for a good many years as a general practitioner, it has been my lot to have had a good share of midwifery, but, of all the cases I ever attended, I never met with an instance of such a marked deficiency in a newly-born babe as I did on April 5th.

Mrs. W——, aged twenty-two, a primipara, who had been under my care for six weeks previously, suffering from false pains now and again, with a sanious, glutinous discharge, was on that date seized with labour. Upon examination, the os was found fully dilated and the breech presenting, and on passing my right index finger over the hip the left limb was easily brought down, which was perceived to be amputated nicely at the middle third of the leg, and the stump firmly healed, apparently a successful case of circular operation. In my attempt to bring down the other, it was felt to be stiff and unyielding; a steady traction was therefore applied to the stump, by which means the little fellow was soon launched into the world. According to the young mother's calculation, her son and heir had made his appearance about a month before its proper time; however, he looked bright and intelligent enough, though he presented the following oddities, in addition to the amputated leg: the right lower limb was straight as an arrow from the hip to the ankle, the knee ankylosed, and the rotundity of the structures of both thigh and leg lost, the foot twisted upon itself inwards (talipes varus), and the toes simply in a rudimentary state; the limb was constantly kept firmly flexed to the right shoulder, soldier-like, presenting "shoulder arms," substituting in this instance the leg for the arm. As for the left, or amputated leg, it was firm and well developed, and moved about with the greatest alacrity. The right hand had the index, the long, and the ring fingers fully developed, with the thumb and the little finger in a rudimentary state. Again, the left hand had only the index and the long fingers intact, a trace simply of the others left. A search was now made for the missing or amputated part, which was found along with the placenta expelled, a plump waxy-looking piece, sufficiently formed to ascertain that the foot corresponded with its fellow—i.e., clubbed. Finding the little fellow so sadly equipped for the battle of life, those most intimately connected were very anxious to know whether he might or not cease to exist. However, to the greatest relief of all concerned, he died naturally four hours subsequently.

I am, Sir, yours faithfully,

Brynmeurig, Bethesda, April 10th, 1886. JOHN WILLIAM.

ROTHELN: A POINT OF DIAGNOSIS.

To the Editor of THE LANCET.

SIR,—Dr. Glover, in THE LANCET of April 24th, mentions a case in which he detected an enlarged gland in the neck appearing *before* an attack of rötheln, and throws out the suggestion that in an epidemic of this disease this condition may enable us to diagnose rötheln before the rash appears.

Lately we have had an epidemic here of rötheln in a large school that I attend, thirty-two boys in all being attacked, and of these five or six had swelling of the cervical glands for several (four or five) days before the rash appeared, and one boy had swollen glands, but no rash at all ever showed itself. Fully half the boys attacked had enlargement of the cervical glands *after* the rash disappeared, one of the usual sequelæ. As far as I can find out, very few English writers on medicine give a good description of rötheln. The best and truest of the accounts I have come across is in the Practice of Medicine by the late Dr. Fagge, and that is copied from the German (Ziemssen's Handbuch).

I am, Sir, yours faithfully,

York, April 24th, 1886. W. H. JALLAND.

EDINBURGH.

(From our own Correspondent.)

UNIVERSITY GRADUATION CEREMONIAL.

ON the 21st inst. the Annual Graduation Ceremonial in Divinity, Arts, Law, and Science took place in the United Presbyterian Synod Hall, which is placed at the disposal of the University authorities for their more important academic gatherings. Lord Inglis, the Chancellor of the University, presided over a crowded meeting of University *alumni* and of the general public. The interest of the occasion was greatly enhanced by the presence of a number of distinguished men on whom the honorary degrees of the University, D.D. and LL.D., were about to be conferred. Prominent amongst these was Dr. Mouat, distinguished alike by his medical, scientific, and administrative achievements in British India, a graduate of Edinburgh of nearly fifty years' standing, who was very warmly received on his presentation for the LL.D. degree. An enthusiastic reception was also accorded to Sir Charles Wilson, the Oriental scholar and explorer, and the hero of the Upper Nile, who presented a most distinguished appearance in his military attire, resplendent with the innumerable medals and orders of which he is the honoured possessor. Sir Charles Nicholson, formerly Chancellor of the University of Sydney, Emeritus Professor John Wilson, of the Chair of Agriculture in Edinburgh, and Mr. John Small, the University librarian, were also amongst those who had the honorary LL.D. degree conferred upon them. A large number of Masters of Arts, Bachelors of Divinity, and Doctors and Bachelors of Science were then capped by the Chancellor.

PROFESSOR BUTCHER'S ADDRESS.

Professor Butcher, of the Chair of Greek, then addressed the assembled graduates, choosing for his subject the "Unity of Learning, its relation to the Life of the Nation, and the Narrowing Effect of too Highly-developed Specialisation." Referring to the Faculty of Arts, he characterised it as a token of the unity of all learning, dealing as it does with those studies which may be included under the title of Philosophy, and related on the side of Ethics and History to the Faculties of Law and Theology, and on that of Mathematics and Physics to the Faculty of Medicine. It is thus the opponent of that spirit of specialism which the professor complained is now supposed to have superseded the spirit of philosophy, and which has not only annexed the several sciences, but has pushed itself also into the domain of morality. Here it shows itself in the form of a departmental supervision exercised over morality in its several aspects; but as, though there be many virtues, there is one unity of Righteousness, so, though there be many branches of science, there is one unity of Knowledge. The more the number of the special sciences is augmented the greater is the danger that they will become mere *disjecta membra* of knowledge, unless this tendency is held in check by the influence of some system of constructive thought which will harmonise their results and reduce to unity their highest generalisations. In applying this principle to the study of medicine, Professor Butcher took the opportunity of combating the opinion of Professor Huxley, recently expressed, to the effect that there might in certain conditions be a danger of broadening the significance of M.D. into "Medical Dilettante." He quoted the dictum of Galen, that "the best physician is also a philosopher," as one that would command the general assent of the profession, and he pleaded that, however skilled a man may be in his own craft, he should not let that craft usurp the whole universe. The remainder of the address dealt with the popularisation of learning, as distinguished from its vulgarisation, and the means of attaining it, and concluded with a strong plea in favour of co-operation in teaching, instead of pure competition, as the principle upon which the requirements of true learning are most beneficially fulfilled.

UNIVERSITY COURT.

It has been decided by the University Court that the University shall in future confer a degree in Music, and shall give diplomas for schoolmasters, a first step towards the formation of a "Faculty of Education."

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN.

Sir Alexander Christison, Bart., M.D., has been appointed a manager of this Hospital, in the room of the late Dr. Angus

Macdonald. The vacant post of assistant-physician to the Hospital has not yet been filled up; a number of candidates for the appointment have submitted applications and testimonials to the Board of Directors, and it is expected that the appointment will be made within a few days.

Edinburgh, April 27th.

IRELAND.

(From our own Correspondent.)

ROYAL COLLEGE OF SURGEONS.

YESTERDAY (Wednesday) there was a large gathering of the Fellows and distinguished visitors to witness the conferring of the Honorary Fellowship of the College on Professors Huxley and Pasteur, Sir James Paget, Sir Joseph Lister, Sir Spencer Wells, and Mr. J. Marshall, the unveiling of the Dease statue, and the opening of the Butcher Museum. His Excellency the Lord-Lieutenant, the Countess of Aberdeen, and the Prince and Princess of Saxe-Weimar having arrived at the College, a procession was formed, which passed up the grand staircase and through the anatomical museum into the board-room. Sir Charles Cameron, the President, in an able speech, dwelt on the merits of the six gentlemen upon whom the College had conferred the Honorary Fellowship, and introduced Sir James Paget, Bart., the only one of the Honorary Fellows present, the others being prevented by unavoidable circumstances from attending. It was expected that Mr. Marshall would have been there, but an attack of bronchitis almost at the last moment caused his absence, while the death of Lady Wells rendered the presence of Sir Spencer Wells impossible. The diploma of Fellowship (*honoris causâ*) having been conferred on Sir James Paget, a suitable reply was returned by that gentleman. Mr. William Stokes, the Vice-president, in a short but eloquent speech, then handed to his Excellency the first copy of the "History of the College," edited under the authority of the College by Sir Charles Cameron. Mr. Rawdon Macnamara, representative of the College in the General Medical Council, next moved a vote of thanks to their Excellencies, which was seconded by Sir George Porter, Surgeon-in-Ordinary to Her Majesty, and acknowledged in appropriate terms by the Lord-Lieutenant. Mr. McDonnell moved, and Mr. Wharton seconded, a vote of thanks to the Prince and Princess of Saxe-Weimar for their presence there that day, and the Prince having replied, the procession was re-formed and returned to the entrance hall. The President having briefly referred to Mr. Dease, one of the founders of the College and its first professor of surgery, requested the Countess of Aberdeen to unveil the statue, after which his Excellency declared the Butcher Museum open, and the proceedings terminated.

A meeting of the Council will be held next Tuesday, to elect examiners for the ensuing year. I understand that of those elected last year two at least will not seek re-election. The history of the College and of Irish surgery and medicine, which has been compiled by Sir Charles Cameron and will be published by authority of the College, will shortly be issued, and it is understood that any surplus accruing from the sale of the work will be handed over to the Royal Medical Benevolent Fund Society of Ireland. In addition to a history of the College the work will contain: firstly, an account of the medical books published in Ireland up to the beginning of the nineteenth century; secondly, a history of the Dublin Guild of Barber Surgeons; thirdly, an account of medical teaching and examination in Ireland prior to the foundation of the College; fourthly, biographical sketches of the Presidents of the College; fifthly, an account of the College and private schools of anatomy and surgery; and sixthly, more than 300 biographical sketches of the professors of the College and the teachers in the private schools.

ADELAIDE HOSPITAL, DUBLIN.

The Committee of Management have undertaken the erection of a home for the nursing staff and apartments for the lady superintendent on the site of the house formerly used for the compounding of medicines. When completed it will be found of great benefit to the hospital. From the annual report, it appears that the hospital obtained during the year £6599, which included a sum of £712 from pay patients. The institution is admirably managed, and well deserves the support it receives.

HEALTH OF DUBLIN FOR MARCH QUARTER.

The deaths recorded in the Dublin registration district were equal to 33·4 per 1000. As regards the respective rates of mortality in the several grades of the population, it appears that the deaths in families of the "professional and independent class" were equal to 17·5; in the "middle class," 32·1; among the "artisan class and petty shopkeepers" it was 26·5; and in the "general service class" and the "inmates of workhouses" combined, it was 43·2 per 1000 of the population.

ACTION AGAINST THE LOCAL GOVERNMENT BOARD.

Dr. Hugh Davies, late medical officer of the Newport Workhouse, was appointed to this office in 1874, but by an order made by the Local Government Board last September the Newport Union was dissolved and amalgamated with the Westport Union. He applied to the guardians for compensation for the loss of his appointment, which was refused; and he finally entered an action against the Local Government Board for £3000 damages. This was decided in favour of the Board last week, as it was proved that there was no contract of service between the parties, and that the defendants had acted within their legal rights in dissolving the union. Dr. Davies, besides being refused any compensation, will have to pay the costs of the action.

By the death of Dr. Taggart a vacancy has arisen for the Coronership of the Southern Division of the County of Antrim, and two medical practitioners are candidates for the post—viz., Dr. McNinch, of Ballyclare, and Dr. Wilson, of Kells.

The Belfast Corporation are about to borrow £20,000 from the Board of Public Works in order to defray the cost of erecting a free public library in that town.

Dublin, April 29th.

Obituary.

EVORY KENNEDY, M.D., T.C.D.

ON Good Friday the subject of this notice passed away at the ripe age of seventy-eight. Dr. Kennedy practised formerly in Dublin as an obstetric physician, and was an ex-Master of the Rotundo Lying-in Hospital. He was a Justice of the Peace and Deputy Lieutenant for the county of Dublin, and held a high position in the city, in which he practised. He obtained the degree of Doctor of Medicine of the University of Edinburgh in 1827, and of the University of Dublin in 1839, and the same year was elected a Fellow of the College of Physicians in Ireland, of which he became the President in 1854-5. He filled various posts with credit and efficiency, among others that of President of the Irish Medical Association and Consulting Physician to the Dublin Eye and Ear Infirmary. He was a Corresponding Member of the Medical Society of Hamburg, Vice-President of the Société d'Afrique, Paris, Honorary Member of the Hunterian Society, Edinburgh, Honorary Fellow of the Edinburgh Obstetrical Society, &c. His contributions to medical literature included: "On Utero-placental Circulation and Placental Souffles," "Vesico-vaginal Fistula," "Tartar Emetic in Obstetric Practice," "Purpuric Puerperal Fever," and an excellent monograph on "Congestion, Inflammation, and Ulceration of the Uterus," published in the *Dublin Medical Journal* in 1847.

SURGEON-MAJOR TAGGART, M.D.

GENERAL and genuine sorrow was felt in Carrickfergus on Saturday evening, April 10th, when it became known that Dr. Taggart had passed away, and shutters were immediately put up in every shop window, whether great or small. The sad event was not unexpected, as the deceased gentleman had been in declining health for a considerable time past, and some weeks ago it was known that, notwithstanding the care bestowed on him by several of the most eminent medical men in Ulster, his recovery was hopeless, rapid consumption being the cause of death, at the comparatively early age of forty-seven years. Dr. Taggart was the son of the late William Taggart, Esq., of Thornhill, Antrim. He was educated at the Queen's College, Belfast, and held his degree of M.D. from the Queen's University in Ireland; he was

also a licentiate of the Royal College of Surgeons of Edinburgh. He came to Carrickfergus in the year 1859, and by his courteous manner, gentlemanly deportment, and skill in his profession, he soon built up an extensive and lucrative practice. He was coroner for the southern division of county Antrim, and also for the county of the town of Carrickfergus, and the sometimes trying and difficult duties in connexion with these offices were discharged by him with the utmost impartiality. He succeeded the late Dr. L'Estrange as surgeon-major of the 2nd Brigade, North Irish Division, Royal Artillery, and was a general favourite with his brother officers and the men. He also held the post of certifying factory surgeon for the Carrickfergus district and surgeon to the Sheil's Almshouses, Carrickfergus. In politics Dr. Taggart was a moderate Conservative, and at the last contest in the month of November he was returned in the Conservative interest as one of the municipal representatives, but he did not long enjoy the honour thus won, as the entire election was soon set aside by the Court of Common Pleas, and a new one ordered, which has not yet been held. The deceased leaves a widow and five children, for whom much sympathy is felt in the bereavement they have sustained.

JOHN MATTHEWS, M.D. ST. AND., L.S.A.

THE friends of Dr. Matthews, of Colebrook-row, Islington, were painfully surprised on Monday morning to find his death announced in the obituary of the daily papers. Though he was seventy-three years of age, he did not seem so, and might have been seen till within a few days of his death actively walking his round. He died of pneumonia, which has been so fatal this year, and which there is reason to believe he incurred by close attention to a little patient with a similar attack, to whom he paid evening as well as morning visits. Dr. Matthews will be greatly missed, not only by his patients, to whom he was a thoughtful and valuable adviser, but by his medical friends and neighbours, who often benefited by his kindness and intelligence. He was one of the oldest and most valued members of the Islington Medical Society, and frequently contributed interesting facts in the discussion of cases. Dr. Matthews was born in London and was the son of Dr. John Burggreen Matthews, M.D. Edin., who at one time practised in Canada, and the grandson of Lieutenant John Matthews, R.N., author of "A Voyage to the River Sierra Leone," and, if we mistake not, Governor of that Colony. Dr. Matthews was educated at the High School, Edinburgh, and at Dawlish. He received his medical education at St. Bartholomew's. He was tall in stature, of strong physical constitution, and, though of somewhat sensitive temper, was thoroughly upright and kind. He was thoughtful and well read. His religious views were broad. He was well-known in connexion with the microscope. In the year 1874-5 he was President of the Quekett Microscopical Club, to which he contributed many papers: one on the History of Corals, another on an instrument which he called the "Micro-megascope." He also invented an instrument for cutting hard sections. He edited the second edition of "Davies on the Microscope." Dr. Matthews had a very decided mechanical gift, and if there was any other profession which he would have adorned and liked more than his own, it was that of an engineer. He leaves a wife and one child to mourn his death, which will be felt too by his professional brethren in Islington, who greatly respected him.

WILLIAM RAYNER, M.D.

THE late Dr. Rayner of Stockport, whose death we have already announced as having occurred on April 8th, was born in Stockport, and received his professional education at University College, London, and Middlesex Hospital, being in 1832 admitted a member of the Royal College of Surgeons of England and a licentiate of the Apothecaries' Society. After a brief attendance at the hospitals of Paris, he returned to England and settled down to the practice of his profession in his native town. In 1841 he took the degree of M.D. at the London University, and since Dr. Storrar's death he was one of the oldest, if not absolutely the oldest, of those possessing that degree. In 1853, and again in 1854, Dr. Rayner was elected Mayor of Stockport, and subsequently for eighteen years he served the town in the capacity of an alderman, his position being largely that of an adviser, particularly in regard to matters affecting the public health. In 1855 he was placed on the Commission of the Peace for the borough, and was appointed subsequently a magistrate for the county of Lancaster. Dr. Rayner was a vice-president of the Stockport Infirmary, and also filled at one time or other almost every local office of influence or importance that either ability could attain or the suffrages of others could confer upon him.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on April 21st:—

Armstrong, Sidney Joseph, L.K.Q.C.P.I., Wakefield.
Arnold, Francis Sorell, Oxford.
Baker, Walter Robert, L.R.C.P. Lond., Kilburn.
Bennett, Frank Albert, L.S.A., Birmingham.
Davidson, Harold, L.R.C.P. Lond., Forest Gate.
Hare, Edward Christian, L.R.C.P. Lond., West Bath.
Henderson, James Threapland, L.S.A., Witney.
Lawson, Bernard Sloane, L.R.C.P. Lond., Harley-street.
Oliver, Francis George, L.R.C.P. Lond., Nejapatain, India.
Riddell, Andrew Wilson, L.R.C.P. Lond., Bristol.
Roome, Stanley Molesworth, L.R.C.P. Lond., Cork.
Tabor, Charles James, L.R.C.P. Lond., Reading.

Admitted on April 22nd:—

Bett, William, Holbeach.
Brodrick, Harry Edward, Bury St. Edmunds.
Bright, Eustace Frederick, Bournemouth.
Burton, Leonard William, Burton-on-Trent.
Chapman, Robert Hugh, Richmond
Colman, Walter Stacy, Peterborough.
Collingwood, George Trevor, Brockley.
Cundall, Thomas William, York.
Deacon, George Edward, Hothersett.
Gough, Henry Edward, Manchester.
Graham, William Percival Gore, Cambridge.
Greenwood, William, Ossett.
Halsted, George Ezra, Newark.
Joly, Joseph Eugene Numa, L.R.C.P. Lond., Oppidem-road.
May, Chichester Gould, Dublin.
Nairn, Robert, Kennington-road.
Redmayne, Thomas, Newcastle-on-Tyne.
Smith, Frank Wyatt, B.A. Cantab., Sherborne.
Tatham, Ernest John, Highgate.
Trevor, Edward Fitzgerald, Harlesden.
Turner, Clifford Winslow, Leeds.
Walker, John Thomas, Rexborough.
Webster, Percy Samuel, L.R.C.P. Lond., Lincoln.
Williams, George Rowland, L.R.C.P. Lond., Stroud-green.
Woakes, Arnold Beaumont, Harley-street.

Admitted on April 26th:—

Blomfield, George Wills, L.S.A., Hastings.
Bowden, Walter, Hilldrop-crescent.
Cholmeley, Henry Patrick, Duke-street, Adelphi.
Colquhoun, William Brooks, L.R.C.P. Lond., Upper Clapton.
Cross, Robert George, Petersfield.
Davis, George William, L.R.C.P. Lond., York-road.
Dixon, Charles Frederick Lyne, Camden-road.
Evans, William Edward, Torquay.
France, James Mead, Guildford-road.
George, William Hotten, Probus, Cornwall.
Georges, Absalom, Percy-circus.
Hill, Walter James, Bath.
Howell, Arthur Anthony, Wrexham.
Lyster, Arthur Edward, L.S.A., Walthamstow.
Michelmore, George, Gloucester-street.
Pagden, Trayton Charles, Epsom.
Spoor, William Joseph, Gloucester-place.
Tredinnick, Albert Stephen, St. Austell, Cornwall.
Walker, Cyril Hutchinson, Great Yarmouth.
Wallis, Charles George, Woolwich.

Admitted on April 27th:—

Bidwell, Lawrence, L.R.C.P. Lond., Lee-terrace, Blackheath.
Burnside, Eustace Augustus, L.R.C.P. Lond., Richmond-road.
Clay, William Rudolph, L.R.C.P. Lond., Westwick-gardens.
Evans, Charles Hotham, L.R.C.P. Lond., Winchmore-hill.
Gore, Alfred Joseph, L.R.C.P. Lond., Victoria, Australia.
Langton, Charles Baring Tyndal, L.R.C.P. Lond., Medora-road, Brixton.
Parker, Charles Arthur, L.S.A., Claxby, Lincolnshire.
Sprigge, Samuel Squire, Milner-terrace.
Ward, Stanley Edward, L.S.A., Haverhill, Suffolk.

Admitted on April 28th:—

Buckell, Edward, L.R.C.P. Lond., Romsey.
Christmas, Charles Denn, L.S.A., Hammersmith.
Daniels, Charles Wilberforce, M.B. Cantab., Manchester.
Fisher, Alfred, L.R.C.P. Edin., Liverpool.
Grenfield, Henry Osborne, L.R.C.P. Lond., Calstock, Cornwall.
Holyoake, Hubert, L.R.C.P. Lond., Droitwich.
Melhuish, John, L.S.A., Crossfield-road.
Mitchell, Walter Frederick, L.S.A., Granville-square.
Nevins, John Ernest, L.S.A., Liverpool.
Norman, Frederick, L.R.C.P. Lond., Tavistock-street, Bedford.

Rigden, Alan, L.R.C.P. Lond., Thurlow-place.
Thomas, Thomas Nash, L.S.A., Solva, Pembrokeshire.
Vallance, Ernest, L.R.C.P. Lond., Stratford.
Varley, George, Stanningley.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the April sittings of the Examiners, held in Glasgow, the following candidates passed the respective examinations for the triple qualification conferred by the three Scottish medical corporations:—

FIRST EXAMINATION.—John A. Calderwood, Arthur F. Crinan, Luther Watson, and R. P. Williams, Glasgow Medical School; A. H. H. Watson and M. Campbell Wright, Edinburgh School; H. C. Pauli and G. C. Giles, Leeds School; Walter Cheadle, Owens College; John Stewart and William A. Wales, Queen's College, Belfast; R. S. Leyburn, Dublin; and M. V. C. Marquis, Bombay.

SECOND EXAMINATION.—C. Carruthers, J. F. Challinor, G. Evans, John Rogerson, J. Kenrick Jones, and Archibald M'Arthur, Glasgow School; Alfred A. Adie and M. C. Wright, Edinburgh School; W. F. Cooper, Queen's College, Birmingham; Louis P. Jackson, King's College, London; Daniel Henderson, Queen's College, Belfast.

THIRD EXAMINATION.—William Ed. Bennett, Leeds School; William Colquhoun, Arnold Edward Thorpe, and Horace K. Young, Glasgow School; George Robert Nelson and John Wingfield, Edinburgh School.

The following were admitted Licentiates of the Royal College of Physicians and the Faculty of Physicians and Surgeons of Glasgow under the regulations in force prior to October, 1884:—

George W. Eglinton, Liverpool School; Ed. J. Foulston, Leeds School.

ST. ANDREWS UNIVERSITY.—The following registered medical practitioners having passed the required examinations, received the degree of M.D. on April 21st:—

Adam, Edward, M.R.C.S., L.K.Q.C.P.I., Liverpool.
Boustead, Robinson, M.R.C.S., F.R.C.S. Ed., L.S.A. Lond., Brighton.
Bowie, Alex., M.B. C.M. St. And., L.R.C.P., L.R.C.S. Ed., London.
Davis, H., L.R.C.P. Lond., M.R.C.S., L.S.A. Lond., Wallington.
Gunn, Alexander, L.R.C.P., L.R.C.S. Ed., Edinburgh.
Hume, Frederick Henry, M.R.C.S., L.S.A. Lond., London.
Knight, Charles Frederick, M.R.C.S., L.S.A. Lond., London.
Macdonald, Keith Norman, L.R.C.P. Lond., F.R.C.P. Ed., L.R.C.S. Ed., Cupar Fife.
McMunn, J. Alex., M.B. C.M. St. And., L.R.C.P., L.R.C.S. Ed., Alderney.
Scowcroft, J. Edwin, L.R.C.P., F.R.C.S. Ed., F.F.P.S. Glasg., Bolton.
Skirtliff, E. Matthew, M.R.C.S., L.S.A. Lond., Kingston-on-Thames.
Willson, Henry, M.R.C.S., L.S.A. Lond., London.

ABERDEEN UNIVERSITY.—At the recent examinations for medical and surgical degrees, the following candidates obtained the degree of M.D.:—

John Hector Anderson, M.A., James Mackenzie Booth, M.A., William Geddie, John Inglis, M.A., Peter William M'Donald, M.A., Forbes Robertson Mutch, M.A., John Reid, M.A., James Taylor Robb, M.A., William Stericker, M.A., Peter Alfred Sullivan, M.A.

The following candidates obtained the degrees of M.B. and C.M.:—

Charles Mitchell Aird, Henry Angus, Charles Arthur Arnold, Joseph Marshall Barnes, John Fairbairn Binnie, M.A., Gregor Burgess, A. Wilson Chapman, Alexander Forbes Chisholm Clark, Frank Lang Collie, William Davidson, James Steel Dickie, *John Charles Grant Duffus, M.A., George Forbes, †James Galloway, M.A., W. Greig, Alex. Gordon R. Ingram, M.A. J., Thomson Lewis, Philip J. Lumsden, Donald George Gordon Macdonald, John Malcolm, †William Milligan, Alexander Milne, Alfred Mackay, †James Murray, Charles Reid, John Russell, M.A., William Scatterty, M.A., David Alexander Shirres, Alexander Simpson, M.A., John Wesley Smith, Robert Ben Tydd Stephenson, John Taylor, *John Duncan Thomson, M.A., William Donald Urquhart, George Williamson, M.A., Reginald Graham Wills, George Nicol Wilson.

* Highest Academical Honours. † Honourable Distinction.

SOCIETY OF APOTHECARIES.—The following gentlemen passed the examination in the Science and Practice of Medicine, Surgery, and Midwifery, and received certificates to practise, on April 22nd:—

Alexander, Sidney Robert, Essex Lodge, Upper Norwood.
Fowler, John Bucknill, Thornton, Hereford.

AN interesting work on medical curiosities and history has been published in Spanish from the pen of Don Luis Comenge.

ON April 21st, Dr. Charles M. Chadwick delivered a lecture on Pasteur and his Work, to the members of the Leeds Philosophical Society.

ACCORDING to the *Cologne Gazette*, the wife of an inhabitant of Niehl has twice within eleven months been delivered of triplets.

NORTH-WEST LONDON HOSPITAL.—A Fancy Dress International Fair is to be held at the Athenæum, Camden-town, on May 3rd and two following days, in aid of the funds of the above hospital.

OLDHAM INFIRMARY.—The funds of this charity have been augmented to the extent of £1000, under the will of the late Mrs. Redfern, of Knutsford.

VACCINATION GRANT.—Mr. Durdin of Desford, Leicester, has received the Government grant for efficient vaccination in his district.

ON April 15th, Brigade Surgeon Ramsbotham and the officers of the Medical Staff at Alexandria gave a ball, which was well attended.

GUY'S HOSPITAL BIENNIAL DINNER.—The Guy's Hospital Biennial Dinner will be held early in July on the same day as the annual distribution of prizes, at which ceremony, it is hoped, H.R.H. the Duke of Cambridge will preside.

BOMBAY EYE AND EAR INFIRMARY.—At a meeting of the subscribers to this institution, held on Feb. 11th, the first report, dealing with a period of fourteen months, was presented. The number of patients who had received the benefits of the charity was 2780 for diseases of the eye, and 777 for aural diseases. The visits made by these patients were 19,109, a daily average of 54·4. The receipts amounted to 3602 rupees, and the expenditure to 2451 rupees, of which sum 825 rupees were expended in starting the institution. The hospital is open for the treatment of all persons, without distinction of caste or creed, and the committee earnestly appeal for further pecuniary support.

MEDICAL PRIZES AND SCHOLARSHIPS.—At *St. Bartholomew's Hospital* the Kirkes Gold Medal and £30 scholarship has been awarded to Mr. W. H. Hamer, B.A. At *St. Thomas's Hospital* the Mead Medal has been awarded to Mr. Samuel Walton Wheaton; the Cheselden Medal to Mr. John Herbert Tonking; the Solly Medal, and a prize in money, to Mr. Ernest Solly; and a bronze copy of the Mead Medal to Mr. Henry John Macevoy, he being distinguished by special proficiency. In the winter session prize list of the *Westminster Hospital* the Treasurer's Prize has been gained by Mr. L. Lewis; the President's Prize, by Mr. J. R. Plant; Chemistry Prize, by Mr. L. Lewis and Mr. E. J. Pritchard; Medicine Prize, Mr. H. B. Brackenbury; Surgery Prize, by Mr. C. Burt.

UNIVERSITY OF LONDON.—At a meeting of the Senate held on April 28th, the following gentlemen were appointed Examiners for the ensuing year:—Chemistry: Professor J. Emerson Reynolds, M.D., F.R.S.; Professor T. E. Thorpe, Ph.D., F.R.S. Botany and Vegetable Physiology: Professor Bayley Balfour, M.D., D.Sc., F.R.S.; Professor F. Orpen Bower, M.A. Comparative Anatomy and Zoology: Professor E. Ray Lankester, M.A., F.R.S.; Professor Alexander Macalister, M.D., M.A., F.R.S. Practice of Medicine: Wm. H. Broadbent, M.D.; S. J. Gee, M.D. Surgery: Wm. Morrant Baker, Esq.; Professor Christopher Heath. Anatomy: Professor D. J. Cunningham, M.D., C.M., F.R.S.E.; Professor John Curnow, M.D. Physiology: Professor E. A. Schäfer, F.R.S.; Professor Gerald F. Yeo, M.D. Obstetric Medicine: F. H. Champneys, Esq., M.A., M.B.; John Williams, M.D. Materia Medica and Pharmaceutical Chemistry: J. Mitchell Bruce, M.D., M.A.; T. Lauder Brunton, M.D., D.Sc., F.R.S. Forensic Medicine: Augustus J. Pepper, Esq., M.S., M.B.; Thomas Stevenson, M.D.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

ATTHILL, ROBERT C., L.R.C.P.Ed., L.F.P.S.Glas., L.S.A.Lond., has been appointed Medical Officer for the Elmstead Division of the Fifth District of the Tendring Union.

BROWNE, GEORGE HENRY, L.R.C.P.Ed., L.F.P.S.Glas., L.A.H., has been reappointed Medical Officer of Health for the Brynmawr Urban Sanitary District.

BRYANT, HENRY V., M.R.C.S., L.R.C.P.Ed., has been appointed Medical Officer for the Castor District of the Peterborough Union.

EASTON, GEORGE FREDERICK, M.D. Univ. Edin., L.R.C.S., has been appointed Medical Officer of Health for the Alnwick and Canongate Urban Sanitary District, Northumberland, vice Davidson, resigned.

FOXWELL, ARTHUR, B.A., M.B. Cantab., has been appointed Pathologist to the Birmingham Hospital for Women, vice Dr. Saundby elected Consulting Physician.

FRIZELL, THOMAS, B.A., M.D., M.Ch., L.M., R.U.I. (late House-Surgeon and House-Physician to the London Hospital), has been appointed Government Medical Officer to the Roebourne District of Western Australia.

GRIFFIN, INNES, M.R.C.S., L.S.A.Lond., has been appointed Medical Officer of Health for the Banbury Urban Sanitary District, vice Grimbly, whose appointment has expired.

HODSON, FRANCIS OCTAVIUS, L.K.Q.C.P.I., has been appointed Medical Officer to the District Hospital, Government Medical Officer and Public Vaccinator for the Walgett District, New South Wales.

LAWFORD, JOHN BOWRING, F.R.C.S.Eng., has been appointed Assistant Ophthalmic Surgeon to St. Thomas's Hospital.

LAWTON, HERBERT ALFRED, L.R.C.P.Lond., M.R.C.S., L.S.A.Lond., has been appointed Medical Officer of Health for the Poole Urban and Port Sanitary Districts, vice Vernede, resigned.

MACVIE, ADAM, M.D. Univ. Edin., has been appointed Medical Officer of Health for the Baildon Urban Sanitary District, Yorkshire, vice Smyth.

MONTGOMERY, SAMUEL, L.R.C.P.Ed., L.R.C.S.Ed., has been reappointed Medical Officer of Health for the Ovenden Urban Sanitary District, Yorkshire.

PAGET, CHARLES EDWARD, L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer of Health for the Appleby Urban Sanitary District.

PARKINSON, SIDNEY G., M.R.C.S., L.S.A.Lond., has been appointed Medical Officer to the Workhouse of the Wimborne and Cranborne Union.

PERCIVAL, FRANK, has been appointed Assistant Medical Officer to the Lunatic Hospital, The Coppice, Nottingham.

PESKETT, A. W. CHALMERS, M.A., M.B.Cantab, has been appointed Medical Officer of Health for the Urban Sanitary Authority, Burnham, Somerset, vice D. A. Fraser, M.R.C.S., resigned.

PINKERTON, JAMES, M.D., Q.U.I., has been appointed Medical Officer for the First District of the Parish of Liverpool.

REVINGTON, GEORGE, A.B., M.B., B.Ch., has been appointed Junior Assistant Medical Officer to the Prestwich Asylum.

SHARP, EDWARD, M.R.C.S., L.S.A.Lond., has been reappointed Medical Officer of Health for the Truro Urban Sanitary District.

THOMSON, THEODORE, M.A.Aber., M.B.Lond., L.R.C.P. & L.R.C.S.Ed., has been appointed Medical Officer of Health for Aberdeen, vice Simpson, resigned.

TURNER, HENRY C., M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the Fourth District of the Steyning Union.

Births, Marriages, and Deaths.

BIRTHS.

CLARE.—On March 29th, at Sutton's Pasture, Vere, Jamaica, the wife of Henry L. Clare, M.B., District Medical Officer, of a son.

LANKESTER.—On the 25th ult., at Gwendwr-road, West Kensington, W., the wife of Herbert Lankester, M.B.Lond., of a son.

NISBET.—On the 16th ult., at Devonshire-road, Princes'-park, Liverpool, the wife of J. Tawse Nisbet, M.B., C.M.Ed., of a daughter.

POWER.—On the 19th ult., at Bloomsbury-square, W.C., the wife of D'Arcy Power, M.A., M.B.Oxon., F.R.C.S.Eng., of a daughter.

WELLS.—On the 22nd ult., at Belsize-park, N.W., the wife of Poulett Wells, M.B., of a son.

MARRIAGES.

ALEXANDER—FINDLAY.—On the 28th ult., at 4, Rowallan Quadrant, The Observatory, Glasgow, by the Rev. Dr. Drummond Belhaven, U.P. Church, Thomas Gray Alexander, M.B., C.M., M.R.C.S.Eng., of Glasgow, to Anna Graham, daughter of John Findlay.

HABERSHON—DAVIES.—On the 28th ult., at Menai-bridge, Anglesey, Samuel Herbert Habershon, M.B.Cantab., M.R.C.P., only son of Dr. Habershon, of Brook-street, Grosvenor-square, to Catharine, second daughter of Richard Davies, Esq., M.P., of Treborth, Bangor.

HENDERSON—BALFOUR.—On March 7th, at the Cathedral of Holy Trinity, Shanghai, Wm. A. Henderson, L.R.C.P.Ed., L.R.C.S.Ed., of Chefoo, to Jessie Elizabeth, third daughter of Joseph Balfour, of Athelstan House, Brighton, Sussex.

DEATHS.

JACKSON.—On the 24th ult., at Barnstaple, Devon, Henry Jackson, M.R.C.S., aged 35.

KENNEDY.—On the 22nd ult., at Queensberry-place, S.W., Evory Kennedy, M.D., D.L., of Belgard, Clondalkin, formerly President of the King and Queen's College of Physicians, Ireland, aged 79.

LITTLER.—On the 5th ult. (suddenly), at his residence, Embden-street, Manchester, John Watson Littler, M.R.C.S.Eng., L.S.A.Lond., the dearly-beloved husband of Mary Ann Littler, and the only son of the late Dean of Battel.

MATTHEWS.—On the 22nd ult., at Colebrooke-row, Islington, John Matthews, M.D.

ORWIN.—On the 16th ult., at Palace Chambers, Westminster (after a brief illness), Surgeon-Major Thomas William Orwin, A.M.D., eldest son of the late James Orwin, M.D., aged 47.

SEAGRAVE.—On the 23rd ult. (suddenly), at his residence Oakhurst, Sunninghill, Berks, William Seagrave, M.R.C.S., in his 71st year.

TAGGART.—On the 10th ult., at his residence, Carrickfergus, Surgeon-Major D. R. Taggart, M.D., Coroner, County Antrim and County of the Town of Carrickfergus, aged 47 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

BOOKS ETC. RECEIVED.

BAILLIÈRE, TINDALL, & COX, King William-street, Strand, London.

A Text-book of Naked-eye Anatomy: being an accompanying text to Masse's Plates. By James Cantlie, M.A., F.R.C.S., &c. Third Edition. pp. 475, with 113 Plates.

CHURCHILL, J. & A., New Burlington-street, London.

Materia Medica and Therapeutics: Vegetable Kingdom, Organic Compounds, Animal Kingdom. By Chas. D. F. Phillips, M.D. pp. 1081.

A Manual of Medical Jurisprudence. By Alfred Swayne Taylor, M.D., F.R.S. Eleventh Edition. Edited by Thos. Stevenson, M.D.Lond. pp. 837.

HIRSCHWALD, A., Berlin.

Klinik der Verdauungskrankheiten. Von Dr. C. A. Ewald. I. Die Lehre von der Verdauung. Zweite neu bearbeitete Auflage. S. 197.

KEGAN PAUL, TRENCH, & Co., Paternoster-square, London.

The Springs of Conduct: an Essay in Evolution. By C. Lloyd Morgan. pp. 317.

KIMPTON, HENRY, High Holborn, London.

The Alkaline and Non-alkaline Treatment of Acute Rheumatism. By C. S. Taylor, M.D., B.Sc.

LEWIS, H. K., Gower-street, London.

A Manual of Operative Surgery. By Lewis A. Stimson, B.A., M.D. Second Edition. pp. 506, with 342 Illustrations.

Bath, Contrexéville and the Lime Sulphated Waters, with their Use in Medicine. By John Macpherson, M.D. pp. 54.

L'INSTITUTE DE MÉDECINE DOSIMÉTRIQUE, Paris.

Compendium de Médecine Dosimétrique, ou Matière Médicale, Chimique, Pharmaceutique, Pharmacodynamique, Clinique. Par le Dr. A. Van Renterghem de Goes (Zelande). pp. 941.

LONGMANS, GREEN, & Co., Paternoster-row, London.

The Rotifera or Wheel Animalcules. By C. T. Hudson, LL.D., and P. H. Gosse, F.R.S. Part III.

Transactions of the Obstetrical Society of London. Vol. XXVII. pp. 335, Illustrated.

MACMILLAN & Co., Bedford-street, London.

Micro-organisms and Disease: an Introduction to the Study of Specific Micro-organisms. By E. Klein, M.D., F.R.S. Third Edition, Revised. pp. 267, with 121 Engravings.

PENTLAND, YOUNG J., Edinburgh.

Diseases of the Mouth, Throat, and Nose. By Dr. Philip Schech. Translated by R. H. Blaikie, M.D., F.R.C.S.E. pp. 302, with 5 Illustrations.

SAMPSON LOW, MARSTON, SEARLE & RIVINGTON, London.

A System of Practical Medicine by American Authors. Edited by Wm. Pepper, M.D., LL.D.; assisted by Louis Starr, M.D. Vol. IV.: Diseases of the Genito-urinary and Cutaneous Systems; Medical Ophthalmology and Otology. pp. 887.

SCOTT, WALTER, Warwick-lane, London.

Plain Facts about Infant Feeding and Management. By C. S. Redmond, L.K.Q.C.P.I., &c. pp. 82.

SMITH, ELDER, & Co., Waterloo-place, London.

On Asthma, its Nature and Treatment. By Horace Dobell, M.D. pp. 32, quarto, Illustrated.

WOOD, WILLIAM, & Co., New York.

A Reference Handbook of the Medical Sciences. By various Writers. Edited by A. H. Buck, M.D. Vol. II. pp. 814, profusely Illustrated.

Index Medicus, Vol. VIII., Nos. 2 & 3.—The Doctrine of Evolution in its Application to Pathology; by Wm. Aitken, M.D. (Macdougall, Glasgow).—University College Magazine, Liverpool.—A Selection of Chess Problems; by C. White, Surg.-Major. (Morgan, Holloway).—La Langue Intérieure et les diverses Formes de l'Aphasie; par Prof. G. Ballet. (Baillière et Cie, Paris).—An Introduction to the Pathology of Cancer and Tumour Formation on the Basis of Evolution; by W. Roger Williams, F.R.C.S.—Annual Medical Report on the Straits Settlements Civil Hospitals for 1885; by T. Irvine Rowell, M.D.—Patents and Patentees in Victoria; by Richard Gibbs, Registrar-General of Victoria.—The Right Mode of Respiration in regard to Speech, Song, and Health; by C. J. Plumptre. (Trübner).—The Influence of Sewerage and Water-supply on the Death-rate of Cities; by E. F. Smith.—De la Oftalmía Purulenta del Recien Nacido; por el Dr. M. J. Osio.—The Home Artist; conducted by Mrs. A. Heron, Chicago.—Acute Nephritis in Lambs; by W. Roger Williams, F.R.C.S.—Description of the St. Marylebone Infirmary, Notting-hill; by H. Saxon Snell.—Archives Slaves de Biologie; dirigées par MM. Maurice Mendelssohn et Ch. Richet. (D. Nutt, Strand).—Contribution à l'Etude de la Périarthrite du Genou; par Dr. T. H. P. de Tavera.—Holiday Notes in East Anglia.—Transactions of the Obstetrical Society of London, Part I.—Recherches sur l'Action Physiologique et Thérapeutique de l'Acétophenone; par M. A. Mairet et M. Combemale.—Ueber das primäre Erysipel des Kehlkopfs; von Dr. F. Massel.—Zur Prognose der Gehirnsyphilis für practische Aertze; von Dr. O. Braus.—Der Blutkreislauf der Ganglienzelle; von Prof. Dr. A. Adamkiewicz. (Hirschwald, Berlin).—Compensation for Personal Injuries on Rail, Road, and River; by T. J. W. Bennett, F.R.S.L.—Estadisticas de la Inoculacion Preventiva del Cólera Morbo Asiatico.—De l'Antipyrine dans la Thérapeutique Infantile; par le Dr. Moncorvo. (Berthier, Paris).—Good Words, Sunday Magazine for April and May, Leisure Hour, Sunday at Home, Boys' Own Paper, Girls' Own Paper, April and May.—The Heretic, April

Medical Diary for the ensuing Week.

Monday, May 3.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesdays, same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.
ROYAL INSTITUTION OF GREAT BRITAIN.—5 P.M. General Monthly Meeting.
SOCIETY OF ARTS.—8 P.M. Dr. B. W. Richardson: Animal Mechanics (Cantor Lecture).
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. R. Douglas Powell will deliver the Annual Oration. At 9.15, Reception by the President and Conversazione. The Band of the Royal Artillery will be in attendance.

Tuesday, May 4.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 and Thursdays at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. Arthur Gamgee: The Function of Circulation.
PATHOLOGICAL SOCIETY OF LONDON.—8 P.M. Mr. R. W. Parker: Obliterative Tracheitis and Bronchitis in Congenital Syphilis.—Dr. Hale White: Pathological Histology of Hydrophobia.—Dr. Payne: Granuloma Fungoides.—Mr. Eve: Granuloma Fungoides of Foot.—Dr. Handford: Hepatic Abscess Secondary to Pelvic Inflammation.—Dr. Norman Moore: Primary Cancer of the Thyroid.—Dr. N. Dalton: Congenital Stricture of Small Intestine.—Dr. Carrington: Double Intestinal Stricture.—Mr. Davies-Colley: Spinal Abscess destroying Right Kidney and opening into Duodenum.—Dr. Silcock: Psoas Abscess with Formation of New Bone in Sinus.—Dr. Turner: (1) Tubercular Arteritis; (2) Miliary Tubercle in Pulmonary Artery.—Dr. Mott (for Dr. Steeves): Malignant Growth of Lip, with Melanosis. A number of Specimens will also be exhibited.
SOCIETY OF ARTS.—8 P.M. Mr. Ernest Hart: Japanese Art Work.

Wednesday, May 5.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesdays and Thursdays, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; and on Friday, 2 P.M.; and Saturday, 1 P.M.
SOCIETY OF ARTS.—8 P.M. Adjourned Discussion on Dr. C. Meymott Tidy's paper on The Treatment of Sewage.
OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown. Dr. Matthews Duncan: On Elasticity, Retraction, and Polarity of the Uterus.—Dr. Amand Routh: A case of Serous Perimetritis.—Dr. Champneys: On the Artificial Production of the so-called Lymphatic Varix.

Thursday, May 6.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Surgical Consultations, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. Dewar: The Alkaloids.
SOCIETY OF ARTS.—8 P.M. Mr. Edward Coombes: The Commerce and Industries of New South Wales.
HARVEIAN SOCIETY OF LONDON.—8.30 P.M. Mr. C. M. Handfield-Jones: On Sudden Death in Pregnancy, Parturition, and the Puerperal State.—Dr. W. Ewart: On some Practical Points in Percussion and Auscultation of the Chest.
OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8.30 P.M. Exophthalmic Goitre, its Symptoms, Pathology, and Treatment. Communications will be made by Drs. Wilks, Bristowe, Hughlings-Jackson, Sharkey, Hill-Griffith, and Samuel West, and by Messrs. Lunn, Higgens, Silcock, &c. Living and Card Specimens at 8 P.M.

Friday, May 7.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1.30 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
SOCIETY OF ARTS.—8 P.M. Mr. B. H. Baden Powell: Indian Manufactures from a Practical Point of View.
WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8 P.M. Mr. Percy Dunn: Morbid Specimens.—Dr. Ball: A case of Multiple Warts.—Drs. Ball and Colcott Fox: Cases of Hereditary Syphilis.—Dr. Colcott Fox: Some cases of Bone Syphilis in Infants.—Dr. Scanes Spicer: A case of Chronic Cerebral Abscess following Otitis Media, with account of post-mortem examination.—Dr. Clippingdale: Educational Over-pressure of Young Children.
ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Mr. Frederick Siemens: Dissociation.

Saturday, May 8.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Prof. Ernst Pauer: How to Form a Judgment on Musical Works.
SOCIETY OF ARTS.—3 P.M. Prof. George Forbes: Electricity.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office, April 29th, 1886.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Apr. 23	30·05	N.E.	32	49	105	67	44	...	Fine
,, 24	30·05	E.	52	50	103	69	43	...	Overcast
,, 25	30·03	E.	55	50	104	62	46	·03	Fine
,, 26	30·03	N.E.	58	54	104	63	45	...	Fine
,, 27	29·93	N.E.	50	46	105	68	45	...	Fine
,, 28	29·64	E.	52	50	78	48	48	·03	Raining
,, 29	29·89	E.	40	39	82	50	39	·25	Raining

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

SCIENCE AND THEOLOGY.

R.L., M.D.—We do not succeed in making our position intelligible if our readers are unable to understand that we protest against the affirmation of neology; on the obvious ground that nothing positive can be based on a negative. It is absurdly illogical to assert that there cannot be a soul or a future state simply because the investigations of biologists have not resulted in the discovery of either. The scientist, *as such*, must be agnostic in the sense of knowing nothing of a soul or a future; but he has no reasonable ground for denying their existence. He simply does not know. He may go so far as to say these things are unknown; but he has no right to declare that they are unknowable, much less can he deny their existence. So far as he is concerned, there may be a soul and a future, and religion may be true. As a *scientist*, he has simply nothing to do with the subject. As a *man*, he is free to believe or disbelieve what he pleases. This being our view, it would be inconsistent for us to join issue with the materialist, or to attempt to bring science to the aid of religion. The time has not arrived—whether it ever will or not we have no means of judging—when there shall be a science of religion. At present the subject matter of religion is, in a scientific sense, unknown. There are, however, in all times and places those who worship "the Unknown."

L. H. Masser.—The office is at 27, Chancery-lane, where information may be obtained.

Dr. Wiglesworth (Rainhill).—Yes, in an early number.

TENDER FEET.

To the Editor of THE LANCET.

SIR,—In reply to "X" in your last issue (p. 815), will you allow me to say that I can fully sympathise with your correspondent, having been for many years a sufferer from tender feet, for which the easiest of boots afforded no relief. It occurred to me that the complaint might be due to some low form of vegetation affecting the skin, derived perhaps from the leather of the boots. Acting on this theory I was led to try the remedy used at the Cape for destroying the fungus (oidium albicans) affecting the cuticle of the vine leaves. I dusted the feet with sulphur, and found immediate relief, but the remedy was attended with inconvenience. I afterwards tried the simplest of antiseptics—common salt,—and found it to answer perfectly. The plan I follow is, after the morning bath, to sponge the feet with a strong solution of salt (three tablespoonfuls to half a pint of water), afterwards drying lightly.

I am, Sir, yours truly,

April 28th, 1886. CAPENSIS.

GAOLS IN GEORGIA, U.S.A.

JUDGE JOEL BRANHAM of Georgia has been reading the State authorities a salutary lesson on the hygienic treatment of prisoners, as the following speech will show:—"A great many of the county gaols in Georgia are a disgrace to our civilisation. They are built with no reference whatever to the comfort of those who may be compelled to occupy them, while from a sanitary point of view they are often hardly fit to be occupied by animals, let alone human beings. With few exceptions, they are not furnished with the means of ventilation, and the bad air which the prisoners are compelled to breathe often breeds diseases. Then, again, many of them have no provision for being warmed in cold weather, and much suffering has resulted from this cause during the past winter. The law does not seek to punish a man by freezing him or depriving him of pure air. For this reason, I have made it a point to charge the grand juries wherever I held court to carefully investigate the gaols, and see that they are furnished with proper heating apparatus and the means of ventilation. There should certainly be some State supervision over all prisons, both county and municipal. I have long advocated the appointment of an inspector of such prisons, with plenary powers to enforce all laws pertaining to them."

M.R.C.S.—Our correspondent's experience will no doubt be a warning to him not to attend and give evidence at an inquest without a subpœna duly served. For all that, we maintain that when a coroner asks, through his constable, a medical man to attend an inquest, he is morally bound to tell him that he cannot pay a fee, or, failing such notice, to pay it. We advise our correspondent to lay the facts before the Home Secretary. He owes this as a duty to himself and to the profession.

Physician has not enclosed his card.

SIX MONTHS' EXPERIENCE OF SANITARY WOOLLEN CLOTHING AND BEDDING.

To the Editor of THE LANCET.

SIR,—I should be glad if you can give me the opportunity to render to your readers a short account of the effects in my experience of the use of sanitary woollen clothing and bedding. If I may judge from my own case very many who may have read or heard more or less of Dr. Gustav Jaeger's propositions with regard to dress have dismissed them with little ceremony as pedantic or as well enough for those who are not acquainted with the virtues of good English underclothing, &c. To all such I would say "Don't." The experience of several winters led me to look forward to the last with grave apprehension as prolific of severe and exhausting catarrhs, followed by increased susceptibility and renewed attacks. In October, I, for the first time, saw an exposition of Dr. Jaeger's views in his excellent little volume "Health Culture," and was so impressed with their soundness that I adopted the sanitary woollen clothing and bedding advocated by him in their entirety. The result has been complete immunity from colds and a very marked increase in my capacity for work. I have not put on a great-coat night or day, have slept with an open window in bedroom, and have been able to enjoy the luxury of an open cab instead of a close brougham. Instead of alternating feelings of heat and cold, there has been a uniform and most agreeable glow of warmth. I have, without any alteration of diet or regimen, lost 7 lb. in weight, and (which will, I believe, tax the credulity of some) have witnessed the disappearance of a lipoma of the nape of the neck, which had existed for some years, and had suggested the necessity for an operation. These latter facts powerfully illustrate the truth of Dr. Jaeger's contention that the complete and continuous action of the skin drains the organism of water and superfluous fat. I would say, further, that the feeling induced of perfect health is not the least of the recommendations to adopt the system. I may mention that of the many who have, more or less, fully addicted themselves to it from my example or advice I have not known one who has been disappointed. Lastly, I would add a word on the need there is, if the full benefit to be derived is wished for, that nothing but pure wool should enter either into dress or bedding.

I am, Sir, yours faithfully,

JOHN PENHALL, M.D., F.R.C.S.

St. Leonards-on-Sea, April 17th, 1886.

Inquirer.—1. The public vaccinators are paid at a certain rate for each successful case by the boards of guardians. The minimum fee is eighteenpence for every vaccination done at an appointed station situated at or within a mile from the residence of the vaccinator or in the workhouse of the union or parish; not less than two shillings for every vaccination done at any station over a mile and under two miles distant from his residence; and not less than three shillings if the station be distant over two miles. It should be noted that these are minimum fees, and that the guardians are permitted to pay more. It is right therefore that the public vaccinator should be properly remunerated, and when he can obtain better terms he should do so.—2. Public vaccinators are appointed by the boards of guardians, subject to the approval of the Local Government Board.—3. The Government grant for efficient vaccination is a maximum fee of one shilling for each successful case.

Dr. Auld (Wick).—Yes, as early as possible.

VENANZIO LUPACCHINI.

"LA cura della Idrofobia e la Scoperta di Pasteur"—such is the title of a paper in the *Nuova Antologia* of April 1st, which may be recommended as perhaps the most succinct, while most exhaustive, account of the malady and of previous attempts to cure it yet given to the public. The author is the distinguished physiologist, Signor E. Mancini. Italy, indeed, has special reason to study, and to try to find a remedy for, hydrophobia, if only for its having cost her so many valuable lives, of which few have been more valuable than Lupacchini's. That brilliant physician, classical scholar, and mathematician, to whom the text of Celsus owes so many felicitous emendations, met his death from the bite of a dog under circumstances so remarkable as to deserve recapitulation. On June 14th, 1774, when in his forty-fifth year, a favourite spaniel bit him on the back of the left hand and on the external malleolus of the left foot. Having treated the wounds as seemed best at the time, they caused him so little inconvenience or mental disturbance that he ceased to think of them, being fully persuaded that the dog was not mad. A year passed, and still there was nothing to arouse suspicion. But in the July of 1775 he began to complain of a certain torpor in the left side, and this he treated with the bath, but not so successfully as to conquer the disquieting sensations. The malady first declared itself as hydrophobia in the month of August; but the symptoms once more disappeared until the last day of September. Again the bath was resorted to, and, by way of gratifying his anxious friends, he went to the sanctuary of San Domenico a Cucullo, celebrated throughout his native Abruzzi for the cures it wrought on the faithful. But on the way to this shrine he was overtaken by most violent hydrophobic convulsions, so that he had to alight at Aquila, where the malady continued to declare itself more and more till the night of October 22nd, 1775, when a final, agonising convulsion put an end to his torments. Medical scholarship was thus deprived of a most useful and brilliant light, in one who has not inaptly been described as "an eighteenth century Littre."

Mr. J. S. Dunlop.—We do not quite see what is meant by the term "Medical Assurance Companies."

INFANT FEEDING: COD-LIVER OIL.

To the Editor of THE LANCET.

SIR,—In reference to the annotation on infant feeding which appeared in your issue of April 17th (p. 756), permit me to suggest a mode which I have adopted for many years with unfailing success—I allude to the addition of cod-liver oil to the food of hand-fed infants. Swiss milk is one of the best substitutes for mother's milk, and many infants thrive upon it remarkably well. But we constantly meet with cases in which no kind of artificial food is of benefit, and the poor little creatures waste away, many of them dying of sheer inanition. Now, in these cases cod-liver oil comes in with admirable effect. It is most conveniently given in this way:—Let the nurse dip the end of her little finger in the oil, and put it into the child's mouth. This may be repeated five or six times in the twenty-four hours. In such small quantities, not only does it never disagree, but the child sucks it off the finger with avidity and evident pleasure. It may be administered in this way to the youngest infants. By this simple and inexpensive expedient I have seen many infants who were absolutely starving for want of the natural foods become fat and plump and happy in an almost incredibly short space of time. The oil has the effect of enabling the child to digest other food, which it could not retain on its stomach without it. The great mistake in hand-feeding is to resort, as is commonly done, to preparations of vegetable production which are not suited to the organisation of infants, who are clearly intended to live on animal food; and if that provided by nature, in the form of mother's milk, cannot be given, then the milk of some other animal should be substituted, perhaps with the addition of a little gelatine. But with the aid of cod-liver oil, as I have suggested, any good pure milk will agree with and nourish the child.

I am, Sir, yours obediently,

London, April 20th, 1886. S. YELDHAM, L.R.C.P.Ed., M.R.C.S.

Vigilans.—In a circular of a hydropathic institution we notice that medical men are offered £1 a month for patients recommended by them, and who stay not less than one month, and £2 if they stay three months or longer. We think that this is objectionable. Medical men in advising places of change to their patients are supposed to be acting on purely professional considerations. This supposition would be marred if any commercial considerations were introduced into the question.

F.R.C.S.Eng. (exam.) has omitted to enclose his card.

"KISSING THE BOOK."

To the Editor of THE LANCET.

SIR,—I think we might with advantage take a leaf out of our American cousins' book. I was called upon to give evidence in an American court of law, and when the oath was administered I had to lift up my right hand.

I am, Sir, yours truly,

Sierra Madre, March 31st, 1886. F. C. GRESHAM, M.D., M.R.C.S.

THE BARTLETT CASE.

WE have received a letter from *Mr. T. L. Nichols*, M.D. Univ. New York, U.S.A., the author of "Esoteric Anthropology," enclosing an "Appeal for Justice" against the opinion expressed by Mr. Justice Wills on the character of the book in question. But it is obviously impossible for us to insert strictures on the comments of a judge (even if we differed from him) written at the length and in the strong terms of the appeal.

Thames.—If the election is annual, or the present holder of the appointment vacates it, by death or otherwise, our correspondent's candidature must be successful, if proper representation be made to the Central Board.

Mr. J. G. U. West.—Short notes of the case would be acceptable.

PNEUMONIA AMONGST SOLDIERS.

To the Editor of THE LANCET.

SIR,—Will you allow me to call the attention of the military authorities to the desirability of the soldiers on guard wearing their great-coats when on sentry? I have frequently noticed them with only the tunic, the bitterest east wind blowing hard all the while, and I dare say their under-vests are not at all too warm to protect them against the severity of the weather. Would not this in a great measure account for the "unusually heavy mortality (chiefly chest complaints) amongst the younger soldiers," as recorded? I am, Sir, yours faithfully,

April 24th, 1886. A SANITARIAN.

Enquirer.—We think that the particulars should be given if asked for, if it is intended to press the claim legally.

Enquirens.—Parkes or Wilson.

HOODED GIG OR BUGGY.

To the Editor of THE LANCET.

SIR,—Will any country practitioner who has habitually used a hooded gig or buggy give me the benefit of his experience as regards its comfort in driving long distances on hilly roads—as to whether the occupants are fairly well protected from bad weather, and as to whether any inconvenience is experienced in driving against a head wind when the hood is up? Such information would be thankfully received by

Yours faithfully,

April 26th, 1886. A COUNTRY DOCTOR.

Alpha.—We know of no systematic account of the post-mortem appearances in cases of persons dying from eating poisonous or tainted fish. In some instances nothing abnormal has been discovered, and in most, we imagine, nothing more would be seen than the effects of an irritant. The symptoms generally point more to a toxic agent than to a fatally irritant one.

S.B. is referred to the Medical Directory.

CORRIGENDA.—In the fifth line of the first paragraph of Mr. Eyles' Note on Malarial Icterus and Hæmoglobinuria, in our issue of Jan. 30th, for "spasm" read *plasma*; and in the sixth line of the fourth paragraph, for "hæmoglobinuria" read *hæmoglobinæmia*.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Brailey, London; Prof. Latham, Cambridge; Dr. Savage, London; Sir R. N. Fowler, London; Mr. Vincent Jackson, Wolverhampton; Mr. Godlee, London; Dr. Whitson, Glasgow; Mr. Jalland, York; Dr. Charteris, Glasgow; Dr. H. V. Carter, Bombay; Dr. Hellier, Leeds; Mr. Percy Dunn, London; Dr. Tucker Wise, London; Mr. T. L. Phipson, London; Mr. A. Wright, Romford; Mr. F. Vacher, Birkenhead; Dr. Sutton, Sittingbourne; Messrs. Siazenger and Sons, London; Mr. Eyles, Gold Coast; Mr. J. Robertson, Edinburgh; Dr. Lewins, London; Dr. T. L. Nichols, London; Mr. Haslam, Birmingham; Messrs. Stevenson and Howell, London; Dr. Findlater, Dufftown; Mr. Nairne; Mr. Sell, London; Dr. W. F. Taylor, Brisbane; Dr. Barr, Glasgow; Mr. D. Evelyn; Mr. Hopkinson, Notts; Mr. Benton, London; Mr. Shirley, Stoke-upon-Trent; Mr. Leitershofen, Homburg; Messrs. Eason and Son, Dublin; Mr. Packard, Suffolk; Mr. MacMunn, London; Mr. Potter, London; Mr. Hastings, London; Mr. Hughes, London; Mr. Fulton, Canada; Mr. Kippex, Stamford; Mr. Clark, Aberdeen; Mr. Sutton, London; Mr. Rothua, Beeston; Mr. Fry, Swindon; Messrs. Shiell and Small, Dundee; Dr. Lowe, Burton-on-Trent; Messrs. Jevons and Ryley, Liverpool; Mrs. Pratt, Bournemouth; Mrs. Goodman, Upper Clapton; Mr. Brewster, Bootle; Mr. Freeman, London; Miss Barlow, Blackheath; Mr. Haveling, Paddington; Messrs. Oppenheimer and Co., London; Mr. Senior, Norwood; Mr. Jeaffreson, Newcastle-on-Tyne; Mr. Lacy, Wandsworth; Dr. Spooner, Clapton; Mr. Scott, Manchester; Mr. Sharples, Preston; Mr. Reed, London; Mr. Abbs, Dewsbury; Mr. Gray, Maidstone; Mr. Grant, Tomintoul; Mr. Nilne, Ladywell; Mr. Stilliard, Birmingham; Mr. Berkeley, Burton-on-Trent; Dr. Oldham, Manchester; Mr. Berthier, Paris; Mr. Barton, Norwich; Dr. Fenwick, London; Dr. Meldon, Dublin; Mr. Byrt, Shepton Mallet; Mr. Armstrong, Manchester; Messrs. Orridge and Co., London; Messrs. Allsopp and Co., London; Mr. Stooke, Newton Abbot; Dr. Gramshaw, Walton-on-the-Naze; Mr. Williamson, Leeds; Mr. Jackson, Bradford; A Samaritan; Thames; Vendor; F.R.C.S.; Surgeon, R.N.; Subscriber; A. P. S.; M.R.C.S.E.; P. S., Swanage; T. Med.; Mrs. T., Blackburn.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Eberle, Thirsk; Mr. Boyveau, Paris; Mr. Willan, Leicester; Dr. Williams, Norwich; Dr. Coumbe, Twyford; Mr. Forster, London; Mr. Leith, Forfar; Mr. McClelland, Glasgow; Mr. Squire, London; Mrs. Hitch, St. Leonards-on-Sea; Mr. Cameron, Edinburgh; Dr. Vincent, Manchester; Mr. O'Grady, Hyde; Mr. Whitford, London; Mr. Loveridge, Broadstairs; Mr. James, Yorks; Mr. Turbshaw, Mold; Mr. Hartnell, Notts; Mr. Lambton, Rochdale; Mr. Williams, Oxon; Mr. Rideal, London; Mr. Morgan, Hornsey; Dr. Morton, Kilburn; Mr. Wilson, Anerley; Mrs. Goodman, Clapton; Mr. Beach, London; Dr. Leckin, Pontypridd; Lieut. Beresford, Gosport; Mr. Julien, Newark-on-Trent; Dr. Constable, Ash; Mr. Elliott, Carlisle; Messrs. Tillotson and Son, Bolton; Mr. Rhodes, Manchester; Mr. Lawrence, Tunbridge Wells; Mr. Hopkinson, Notts; Mr. Garland, Leith; Messrs. Beal and Son, Brighton; Dr. Collier, Gorleston; Mr. Yeldham; Mr. Bickerton, Liverpool; Mr. Huxtable, London; Miss Rocky, Devon; Dr. F. J. Money, London; Dr. Findlater, Norwich; Dr. Beaumont, Southampton; Medicus, Sheffield; M.D.; Medicus, Yorks; Medicus, Edinburgh; F. W., Devonport; Medicus, Salop; Sydney; Surgeon, Devon; Medicus, Barnsley; A. B., Ramsgate; Matron, Bridgwater Infirmary; X. Y., Pontypridd; Medicus, Falmouth; Medicus, Manchester; Premium; Omega, Hull; G. H.; N.; M.R.C.S.; Omega, Brighton; A. B., Manchester; Delta, London; C. H.; Salopian; Medicus, Walthamstow; H. B., Dalston; F. J. B.; C. A., Bristol; C. A. M.; Alpha; M. X.; B. D. F.; Z. A.; M.A.; Sigma, Tipperary; Humerus; M. P., Southport; Thyra; T., London; Tenax, Devon; Nemo, Leeds; Matron, Peterborough.

Retford News, Hampshire Advertiser, Hackney Express, Freemason, Burton Chronicle, Halifax (Nova Scotia) Citizen, Times of Egypt, Glasgow Herald, Aberdeen Daily Free Press, City Press, Western Mail, &c., have been received.

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